The 1984 Controlled Deer Hunt In Wildlife Management Units 90A and 90B

1984

Ontario
Ministry of
Natural
Resources

THE 1984 CONTROLLED DEER HUNT
IN
WILDLIFE MANAGEMENT UNITS
90A AND 90B

BY

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FEBRUARY, 1985

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ABSTRACT

The fifth successive controlled deer hunt occurred in WMU 90 on November 5 to 8, 1984. A total of 1696 applications from hunters were processed and 1442 validation tags were issued - 908 by draw and 534 to farmer/landowners.

Five Conservation Officers and one Deputy Conservation Officer expended 21 man-days of enforcement effort, during which 723 hunter contacts were made. Four trespass complaints were received and investigated, however no charges were laid. Two charges were laid for hunting deer without a validation tag. Total hunting effort was 4328 man-days with WMU 90B accounting for approximately twice the effort as WMU 90A. Hunter success in both WMU 90A (38.8%) and WMU 90B (16.8%) was the highest experienced to date. Record number of animals were harvested in both WMU 90A (188 deer) and WMU 90B (135 deer). Information on Big Game Harvest Cards were obtained for 278 of the 323 deer killed.

Of the 1442 hunters issued validation tags, 1270 (88.1%) submitted a mandatory report by the due date of November 22, 1984. The 110 hunters who did not report on the 1984 hunt or who were late in reporting without offering an acceptible excuse, will be ineligible to hunt in the 1985 controlled deer hunt.

Deer checked at stations were generally in excellent condition. Indices of deer abundance were contradictory but generally indicate a healthy population in both WMU's. Results of the 1984 hunt in both WMU's are discussed in relation to: past hunts; comments made by hunters on mandatory reports; weather; herd recruitment, and; the proposed tag quota issued by draw for the 1985 hunt.

INTRODUCTION

The fifth deer hunting season, in which shotguns and muzzleloaders were the only weapons permitted and hunter numbers were controlled, occurred in Simcoe District on the 5th to 8th of November, 1984.

Simcoe District administered the hunt in wildlife management units (WMU's) 90A and 90B, illustrated in figure 1 and described in Ontario Regulations 155/82. This report summarizes results of the 1984 hunt and compares these with that of previous years (1980 - 1983) and with that of other WMU's with controlled deer hunts in 1984. For purposes of comparison between years it is important to note: the 1980 hunt was only three days long, all other hunts were four days, and; both WMU's 90A and 90B were enlarged in 1982. WMU size is comparable for 1980 and 1981, and for 1982, 1983 and 1984 but not for all five hunts.

METHODS

Administrative procedures for the 1984 controlled deer hunt were similar to that of 1983. A "fact sheet" (Appendix I) and a copy of figure 1 were supplied with each application and summarized pertinent information, including: dates; locations; restrictions; how to obtain a validation tag; mandatory report; check stations; results of past hunts, and; suggestions for a successful hunt.

Applications for the draw (Appendix II) were available on 1st of August, to be received at the district office by 5:00 p.m., August 31st. District news releases regarding application availability were distributed to the local media on the 20th of July and 24th of August (Appendix III and IV).

Applicants applying more than once or who were disqualified for failing to submit a mandatory report in 1983, were removed from the draw. Information from applications were edited, entered onto computer files, and forwarded to Wildlife Branch, Toronto for the computerized draw. The number of validation tags issued by draw was originally intended to remain at 200 in WMU 90A and 450 in WMU 90B. However, an error in the computer draw required a second draw and resulted in an additional 136 tags being issued in WMU 90A and an additional 122 tags being issued in WMU 90B. All successful applicants were sent mandatory reports with their validation tags (Appendix V), to be returned to the District Office on or before the 22nd of November, 1984.

Farmers and landowners were again issued validation tags upon submitting an application provided they met the criteria outlined on the "fact sheet" (Appendix I). The affidavit verifying one or more of these criteria was attached to a special application form for farmers/landowners and was signed at time of application (Appendix VI). Qualified landowner/farmers were encouraged to complete applications by the 26th of October, 1984. However, validation tags were issued up to and during the hunt.

A third district news release (Appendix VII) regarding the upcoming deer hunt was distributed to local media on the 19th of October.

Ontario Regulation 297/82 requires that all hunters in controlled deer hunts submit a mandatory report within 14 days after the close of the season. As an incentive to hunters to return their mandatory reports on time, all reports received on or before November 22 were eligible to be drawn as the

winner of an Ithaca Deerslayer shotgun donated by the Ithaca Gun Company of New York. In addition, all hunters submitting a mandatory report were eligible to apply to Ontario Out-of-Doors magazine for a wildlife picture. An information sheet about these incentives (Appendix VIII) were sent to all persons receiving validation tags for the 1984 hunt.

Two district news releases which summarized preliminary hunt results were distributed to local media on November 14th (Appendix IX).

On December 3, 1984, a letter (Appendix X) was sent to all hunters who failed to submit a mandatory report, notifying them that they were ineligible to participate in the 1985 controlled deer hunt. A few of these hunters responded with legitimate excuses and subsequently had their 1985 hunting privilege reinstated (Appendix XI).

Information collected from deer carcasses voluntarily brought to one of five check stations were recorded on big game harvest cards (B.G.H.C.). In addition, B.G.H.C. were completed for deer jaws and hides from additional animals checked at a privatized depot following the 1984 season. A description of the methods used and a copy of the form are found in Appendix XII. Antler length was not recorded during the 1984 hunt.

RESULTS

1. Applications

In total, 1162 applications were received for the 650 validation tags available in the draw for the 1984 hunt in WMU 90. As in past years, both WMU's 90A and 90B were oversubscribed by applications indicating them first choice and therefore the second choice applications were not considered.

The number of applications for both WMU's have increased each year since the first controlled deer hunt in 1980 (Table 1). Because of the additional 136 tags issued in WMU 90A and the additional 122 tags issued in WMU 90B, the chances of being drawn for a tag increased in each unit compared to last year - in WMU 90A, 61.2% of applicants were issued tags compared to 38.0% in 1983; in WMU 90B, 93.3% of applicants were issued tags compared to 77.3% in 1983.

The number of farmers/landowners issued tags in WMU 90A in 1984 (194) decreased slightly compared to last year (206) (Table 1). In WMU 90B the number of farmers/landowners issued tags (340) increased slightly compared to last year (321).

A comparison of the proportion of hunters residing in the WMU with the proportion of hunters residing outside the WMU is summarized for WMU's 90A and 90B on table 2. Non-residents of the WMU were proportionally more common in WMU 90A than in WMU 90B.

2. Participation

In total, 1442 validation tags were issued for the 1984 hunt, 530 for WMU 90A and 912 for WMU 90B (Table 1). This is a 23% increase over the number of validation tags issued for the 1983 hunt (1177). Because the proportion of people issued tags who actually hunted (89.5%) increased from that in 1983 (85.0%), the potential number of active hunters in 1984 (1291) was a 29% increase over that (1000) in 1983.

As in past years, the hunter participation rate was higher in WMU 90A (91.2%) than that in WMU 90B (88.5%) (Table 1).

The density of validation tags issued in WMU 90A and WMU 90B is intermediate in value compared to other WMU's with controlled deer hunts in Southern Ontario (Table 3). Both WMU 90A and WMU 90B have similar densities of permits issued on a total area basis (0.39 - 0.40 tags/km^2) and these agree closely with the average density for the WMU's listed on Table 3 (0.37 tags/km^2). The density of permits issued on forested land is much higher in WMU 90A (2.83 tags/km^2) than in WMU 90B (1.61 tags/km^2) and they straddle the average density for the WMU's listed on Table 3 (1.94 tags/km^2). The amount of forest cover in WMU 90A (13.8%) is much smaller than is in WMU 90B (24.7%) and accounts for the large difference in the density of permits issued on forested land.

3. Enforcement

Table 4 summarizes the enforcement activities of MNR staff during the 1984 hunt. As in past years, the priority was to respond to trespass complaints. Four complaints regarding trespass were received and investigated by Conservation Officers (C.O.'s). No charges were laid as a result of these investigations.

Five C.O.'s and one Deputy C.O. were on patrol during the first day of hunting while four C.O.'s and one D.C.O. were on patrol for the remaining three days. In total, 723 hunter contacts were made as a result of 169.5 man-hours of enforcement effort, resulting in 2 charges and 16 warnings. Both charges were laid for hunting deer without a validation tag.

The accuracy of a sample of landowner/farmer affidavits were checked against municipal tax rolls. All those from WMU 90B (30) were accurate. Of the 32 checked from WMU 90A, only 26 were accurate. Five warnings and one charge for making false statements were made by C.O.'s.

Table 5 summarizes a comparison of enforcement activities during the 1981 - 84 controlled deer hunts in WMU 90. The 1984 hunt experienced the greatest number of warnings and the smallest number of charges over the four year period. The proportion of total warnings and charges to the total number of hunter contacts was highest in 1981 (5.0%), dropped to only 1.2% in 1982 and has increased since then to 2.5% in 1984.

4. Effort

The number of active hunters and hours hunted each day are summarized on Table 6 for the 1980 - 1984 hunts. In 1984, 4328 man-days were expended in both WMU's representing 29927 hours of effort for an average of 6.9 hours hunted per day per hunter. This was the greatest total hunting effort for WMU 90 recorded for the past five years. The 1984 effort in man-days was over 30% greater than that for 1983 (3316 man-days).

Based on total land areas in WMU 90A and WMU 90B of 1354 km^2 and 2288 km^2 respectively (Appendix XIII), the hunting effort per unit area was similar in WMU 90B (8.14 man-hours/km^2; 1.20 man-days/km^2) as in WMU 90A

(8.35 man-hours/km^2; 1.16 man-days/km^2). However, based on total forest cover in WMU 90A and WMU 90B of 187 km^2 and 565 km^2, the hunting effort per unit forest cover is nearly twice as great in WMU 90A (60.46 man-hours/km^2; 8.41 man-days/km^2) as that in WMU 90B (32.96 man-hours/km^2; 4.88 man-days/km^2).

5. Deer Seen

Table 7 summarizes the total number of deer reported seen each day by all hunters and the average number seen each day per hunter for the 1982, 1983 and 1984 hunts. More deer were reported seen by hunters in WMU 90A (2948) than in WMU 90B (2193). The average number of deer seen per hunter-day was much greater (134%) in WMU 90A (1.87) than in WMU 90B (0.80).

In WMU 90A, the average number of deer seen per hunter-day in 1984 declined from that in 1983 (1.90) whereas in WMU 90B, it increased from that in 1983 (0.76).

6. Hunter Success

Hunter success in each WMU is summarized on Table 8 in terms of percentage of active hunters claiming a deer kill and in terms of the average number of man-days of effort per deer killed. In WMU 90A the hunter success ratio (38.8%) was much higher, and the effort per deer (8.4 man-days) was much lower than in WMU 90B (16.8%, 20.4 man-days). Hunter success during 1984 was the highest recorded for both WMU's compared to past hunts.

Daily hunter success in 1984 is summarized in Table 9 for each WMU. Daily hunting success in both WMU's peaked on opening day and declined each subsequent day.

7. Harvest

The total estimated harvest in WMU 90A was 188 which is a 40.3% increase over the 134 deer harvested in 1983 (Table 8). The total estimated harvest in WMU 90B was 135 which is a 32.4% increase over the 102 deer harvested in 1983 (Table 8). The 1984 harvest was the highest ever recorded in both WMU's.

The number of deer checked at stations and the total reported harvest from each township in WMU's 90A and 90B are summarized on Table 10 for the 1980 - 1984 hunts. Presumably unreported deer account for discrepancies where more deer were checked from a township than were reported eg. N. Cayuga, Rainham, Walpole, Brantford, Charlotteville and Dereham. In WMU 90A, a majority of townships (8/10) had a record number of deer harvested and checked. The number of deer harvested from Rainham Township (WMU 90A) and Windham Township (WMU 90B) in 1984 was particularly high in comparison to previous years.

The densities of deer harvested (# deer/km^2) from WMU's 90A and 90B are compared with that for 18 other WMU's with controlled deer hunts in 1984 on Table 11. The harvest density was relatively high in WMU 90A and relatively low in WMU 90B, particularly over the forested area.

Approximately 72% of the total estimated harvest of deer in WMU 90 were checked at stations during the hunt (ie. 234 of 323 animals). Information on an additional 44 animals was obtained after the season closed. Thus, information on Big Game Harvest Cards were obtained for over 86% of the total estimated harvest in WMU 90 (ie. 278 of 323 animals). This compares favourably with that from previous years - ie. 80.9%, 85.0%, 90.6% and 81.6% in 1983, 1982, 1981 and 1980, respectively.

The number of deer harvested each day and the number of deer checked at stations each day are summarized on Table 9.

8. Weapons

Shotguns were reported used by 96.9% of 1183 active hunters reporting, while 3.1% reported using muzzleloaders.

9. Mandatory Reports

Of the 1442 hunters issued validation tags for WMU 90, 1270 (88.1%) submitted a mandatory report by the due date of November 22, 1984. This was a slight improvement over that for 1983 (86.7%) and 1982 (82.5%). Information was subsequently obtained from 68 hunters however, only 52 reports were received in time to be processed and used in this report. Information used in this report is based on 1322 mandatory reports.

The 110 hunters, who did not report on the 1984 hunt or, who were late in reporting (received after November 30, 1984) without offering an acceptable excuse, will be ineligible to hunt in the 1985 controlled deer hunt.

A summary of comments made by hunters on the 1984 mandatory reports is summarized for WMU 90A and WMU 90B on Table 12. A wide array of sometimes conflicting comments are included. Many hunters want a longer and/or later hunting season. Others were complimentary of the present season. A few want to see a shorter season or season closure due to concern for low deer numbers. However, more hunters commented on the apparent abundance of deer than expressed concern for low deer numbers. Twenty-five different hunters from WMU 90A (presumably residents) expressed concern about the apparent large number of non-residents ("city folk") with validation tags for that WMU. They wanted residents of the WMU to be given preference.

10. Biological Data

a) Age and Sex

The number of deer per age and sex checked at stations are summarized on Table 13. Table 14 summarizes the age and sex structure of harvested deer reported on mandatory reports compared with animals checked at stations. Information on age and sex from deer check stations is considered more reliable than that from the mandatory reports.

The age and sex structure of deer from WMU 90A for the 1980 - 84 hunts are summarized on Table 15. Similar data for WMU 90B are summarized on Table 16. Record sample sizes for all age and sex categories occurred for the 1984 hunt in both WMU's.

Highlights from Table 15 for the 1984 hunt in WMU 90A include: the proportion of fawns in the kill (36.2%) is well below that of previous years (40.0 - 51.3%); the proportion of yearlings in the kill (29.4%) equalled the record set in 1983 and exceeds the 1980 - 83 average of 25.3%; the proportion of females in the kill (38.0%) increased from 1983 (35.5%) but remained below the 1980 - 83 average of 44.2%; the fawn and adult sex ratios were approximately equal (0.62 - 0.64 F:M, respectively), and; the fawn/doe ratio (1.51) dropped precipitously from that of 1983 (2.30) and is well below the 1980 - 83 average of 1.90.

Highlights from Table 16 for the 1984 hunt in WMU 90B include: the proportion of fawns in the kill (38.3%) increased over that from 1983 (33.3%) and approximated the 1980 - 83 average of 38.9%; the proportion of yearlings in the kill (29.6%) increased over that of 1983 (22.2%) and exceeded the 1980 - 83 average of 26.8%; the proportion of females in the kill (47.8%) was the highest recorded for this WMU, well above the 1980 - 83 average of 38.5%; the fawn and adult sex ratios were approximately equal (0.91 - 0.92 F:M, respectively), and; the fawn/doe ratio of 1.29 was the lowest recorded for this WMU.

b) Weight

Table 17 summarizes dressed weights of deer harvested in 1984 by sex, age and WMU. Similar data are found on Table 18 for combined WMU's for each of the 1980 - 1984 hunts, inclusive. Mean weights in 1984 decreased over that in 1983 for all deer ages and sexes except yearling does which increased over the same period. Mean weights for male and female fawns and for does (2½ + years) in 1984 were the lowest recorded over the period 1980 - 84. Record small females in all three age categories occurred in 1984 and were all deer from Long Point (WMU 90B): a 13½ kg fawn; a 27½ kg yearling, and; a 32 kg 3½ year old. The largest yearling buck yet recorded was a 83.9 kg animal from Rainham Township in WMU 90A. Age, antler points, beam diameter, weight and township of kill for all bucks weighing over 80 kg's in 1984 are summarized on Table 19.

c) Antlers

Antler measurements (diameter, points) for yearling bucks are summarized by WMU for each of the last five years on Table 20. Mean dressed weights are also found on this table. According to criteria from Pennsylvania (Long 196?) the quality (size and health) of deer in both WMU's 90A and 90B are high.

d) Evidence of Lactation

The presence of milk in the udders of harvested does is indicative of recent nursing and thus, of reproduction. This is summarized on

Table 21 for WMU 90 by age and year of harvest. The proportion of yearling does with milk present in 1984 (90A - 64%; 90B - 67%) dropped from that in 1983 (90A - 87%; 90B - 75%) in both WMU's, but remained above the long term average (90A - 56%; 90B - 65%). The proportion of older does (2½ +) with milk present in 1984 was the lowest recorded for WMU 90B (81%). The three older does without milk were all from South Walsingham Townships - a 2½ year old and a 7½ year old from the mainland and a 3½ year old from Long Point.

DISCUSSION

The 1984 controlled deer hunt was a success. Interest in the hunt increased from past years as reflected in the increase in applications received (Table 1). Few enforcement problems were encountered (Table 2). Cool air temperatures and a lack of rain produced good weather for hunting (Appendix XIV). Many hunters commented favourably on the hunt and expressed a desire for its continuation (Table 12).

The effectiveness of the shotgun draw as an incentive to hunters to return their mandatory reports on time was questionable. Compliance with the two week deadline to return completed reports was 88.1% - a slight improvement over that for 1983 (86.7%) and 1982 (82.5%). However, this may have resulted from enforcement of the penalty for failing to submit a mandatory report in 1983 - ie. 89 hunters lost their right to participate in the 1984 hunt (Reid, 1984). Word of this loss of hunting privilege would have spread via "the grape vine" to other hunters.

Concern for the number of hunters residing outside of WMU 90A who participated in the 1984 hunt there, was expressed by twenty-five hunters on their mandatory reports (Table 12). This is a common complaint expressed by resident hunters (including farmer/landowners) at the Taquanya deer check station. Non-residents of WMU 90A made up a larger share of the hunters issued validation tags there (28%) compared to WMU 90B (12%) (Table 2). The main reason for this difference is that WMU 90A lies much closer to large urban centres (eg. Brantford, Hamilton, Burlington, St. Catharines, etc.) than does WMU 90B. Hunters are more likely to apply to hunt in a WMU closer to home. WMU 90A hunters have experienced better hunting success compared to WMU 90B and this makes it more attractive to non-resident hunters. A preferential draw limiting the number of validation tags available to non-residents of the WMU as occurs in Cambridge District (ie. 25% of tags available by draw) has been suggested by resident hunters. However, deer are a provincial resource and belong to everyone in Ontario, not just country folk. Hunters from the cities have an equal right to participate in the controlled deer hunt. Farmer/landowners are given preferential treatment already.

A desire for a longer or later hunting season was expressed by 162 hunters on their mandatory reports. A longer season would allow more hunters to kill a deer and result in a larger harvest. A later season would ensure more corn was harvested and thus leave less escape cover for the deer as well as increase the opportunity or ability of farmers to participate in the hunt. A later season would also increase the chances of snow which facilitates tracking and improves hunting success. A later season could fall closer to the "rut" when bucks are less wary and more vulnerable to hunting. Thus a later season will also increase hunting success and the number of deer killed. The obvious question is, can the deer herd withstand an elevated level of harvest without declining.

With the present any sex regulations governing the controlled deer hunts, a much higher harvest level than presently exists is likely not sustainable. However, a selective harvest system which restricts the numbers of fawns and does harvested would keep recruitment at a high level and changes in the controlled deer hunt season could be made without threatening the herd health.

The dates of the controlled deer hunts were set initially to coincide with deer seasons occurring in the northern deer range so that some hunting pressure would be transferred south. Deer herds in the north were declining in the 1970's and O.M.N.R. wanted to reduce hunting pressure there. Since implementation of the selective harvest system in the northern deer range, deer numbers have stabilized and are increasing in some areas (H. Smith, pers. comm.). A controlled deer hunt season coincident with the season in the northern deer range is of less importance today.

Another hunter suggestion was a shift in season to include a Saturday so that weekday workers can hunt without taking time off. However, a Saturday hunt would increase the possibility of conflict with non-hunters and landowners.

A suggestion for a split-season with two hunts separated by a week or two would allow an increase number of hunters to participate without increasing hunter density to unsafe levels or to levels likely to aggrevate landowners. As with lengthening or delaying the season, the net effect of a split-season would be to increase the harvest of deer. Without a selective harvest system in place, too many does are likely to be shot and herd recruitment would fall.

An error in the computer draw resulted in a larger number of hunters being issued validation tags than was originally intended - 336 instead of 200 in WMU 90A; 572 instead of 450 in WMU 90B. This allowed more hunters to participate in the 1984 hunt and resulted in a record harvest in both WMU's 90A (188 deer) and 90B (135 deer) (Table 8). The increase in recreation that occurred in 1984 (31% more man-days than 1983) is desirable provided the herd can sustain the additional hunting pressure. Whether the tag quota for the 1985 hunt should remain at the 1984 levels or drop back to the 1983 levels is dependent upon the deer herds recruitment rate. ie. can the deer population replenish itself.

Recruitment rates are high in WMU 90 because nearly 60% of fawn does and over 90% of adult does generally breed successfully (1980 - 84 mean % of does with milk, Table 21).

High fawn pregnancy rates are probably a consequence of a nutritious food supply allowing the animals to reach a critical body weight during their first breeding season. The highest fawn pregnancy rate experienced in WMU 90 over the period 1980 - 1984 occurred in 1983 (83% fawn does with milk, Table 21) and followed the particularly mild winter of 1982 - 83 (Appendix XV).

Whether recruitment rates are high enough to sustain annual hunting pressure and harvests experienced in 1984 is difficult to determine. Record numbers of does were harvested in both WMU 90A (62 does) and WMU 90B (55 does) (Tables 15 and 16). The proportion of females in the harvest was particularly high in WMU 90B (47.8%). The record low fawn/doe ratio there (1.29) suggests that recruitment suffered in 1984. This, combined with the high proportion and numbers of does in the 1984 harvest from

WMU 90B, may hurt recruitment in 1985. Hayne and Gwynn (1977) give theoretical support to the practice of limiting harvest sex ratios (usually to 30 - 40% female) to prevent overharvest. Evidence from Virginia suggests that deer herds there will decline with a 45% proportion of females in the kill, and a fawn/doe ratio of 1.6 or less (Euler, 1982). This suggests that hunting pressure should be reduced in WMU 90B in 1985. However, the relatively mild winter of 1984/85 (Appendix XV) should aid deer recruitment in 1985 and help offset the relatively high doe harvest and low recruitment of 1984.

Positive signs for WMU 90B deer include: an increase in the number of deer seen per hunter-day (0.80) compared with that in 1983 (0.76) and 1982 (0.71) (Table 7); hunter success has increased annually from 11.0% in 1980 to 16.8% in 1984, and; the 1984 sex ratio of fawns (0.91 females per male) was near equal that of adults (0.92 females per male). The latter suggests a stable population according to New York criteria (Dickenson, 1982). The relatively high frequency of deer seen and hunter success experienced in 1984 may reflect an increasing abundance of deer. This contradicts the discussion above on deer recruitment in WMU 90B and suggests that hunting pressure in 1985 would be sustained at the 1984 level.

Indices to deer herd health in WMU 90A are less contradictory than those for WMU 90B. However, there are both positive and negative indicators. The proportion of females in the 1984 harvest (38.0%) increased over that in 1983 (35.5%) but remained below the 1980 to 1983 average (44.2%) (Table 15). It lies within the 30 - 40% female range suggested by Hayne and Swynn (1977) as the maximum allowable to prevent overharvest. However, Downing (1980) contends that if limited data is available, it is better to monitor and adjust the number of each sex harvested, rather than the sex ratio. In this regard, the high number of females harvested from WMU 90A in 1984 (62) is somewhat concerning since this greatly exceeds the number of females killed (37) even when the percentage females in the kill reached 49.3% (1981). Whether the number of females removed from the population was excessive and whether it will significantly hurt recruitment in WMU 90A will not be evident until the fawn/doe ratio in the 1985 harvest is examined. As in WMU 90B, the relatively mild winter of 1984/85 should aid recruitment to the WMU 90A deer herd and help offset the high doe harvest of 1984.

It is possible that the high doe harvest in WMU 90A simply reflects a greater abundance of deer. The record high hunter success experienced there in 1984 (38.8% of hunters were successful) supports this. However, a slightly lower number of deer observed per hunter-day in 1984 (1.87) compared to that in 1983 (1.90) suggests that the deer population is no more abundant than in 1983. Both hunting success and deer observations are greatly influenced by factors other than deer numbers such as weather, amount of unharvested corn, hunter densities and hunter experience. Weather during the 1984 hunt was somewhat cooler than during the 1983 hunt but had similar rainfall occurence (Appendix XIV) and likely affected hunting success and deer observations equally between these years. Factors affecting the corn harvest were also similar in 1983 and 1984 (Appendix XVI). Hunter densities were increased in 1984 over those of previous hunts and likely resulted in increased deer movement thereby decreasing the chances of deer avoiding detection by hunters. This could account for the increase in hunter success. No measure of deer hunting experience of hunters participating in controlled hunts is available to compare between

years. It is probable that hunter experience is much greater on average in the 1984 hunt than the 1980 or 1981 hunts but it is unlikely to differ significantly between 1984 and 1983.

As in WMU 90B, the 1984 sex ratio of fawns in WMU 90A (0.64 females per male) was near equal that of adults (0.62 females per male) suggesting a stable population according to New York criteria (Dickenson, 1982).

In conclusion, the 1984 deer hunt in WMU 90 involved the largest number of hunters, supported the most hunting recreation, and, resulted in the highest hunter success and, the largest harvest of deer, since introduction of controlled deer hunts there. Although compliance with return of mandatory reports improved over previous years, the value of the shotgun draw as incentive to hunters to return reports was questionable. Most hunter comments recorded on mandatory reports related to changes in the deer season. However, most changes recommended by hunters would increase the deer harvest over present levels which is not likely sustainable unless a selective harvest system is implemented in conjunction with the controlled deer hunt.

The number of deer observed per hunter-day and the hunter success rate suggested that the 1984 pre-hunt deer population was similar in size to that of 1983 in WMU 90A and somewhat larger in size to that of 1983 in WMU 90B. Relatively low fawn/doe ratios, particularly in WMU 90B suggest that deer recruitment suffered in 1984. The high proportion of females in the harvest from WMU 90B was somewhat concerning considering the low fawn/doe ratio there. However, deer populations in both WMU's have a relatively high recruitment potential because nearly 60% of the fawn/does and over 90% of the adult does breed successfully. In addition, the relatively mild winter of 1984/85 should help deer recruitment in 1985, offsetting the relatively high doe harvest and low recruitment of 1984.

RECOMMENDATIONS

1) For the 1985 controlled deer hunt, set the quota of validation tags available by draw at 300 in WMU 90A and 500 in WMU 90B. Both are a slight reduction from the number issued in 1984 (336 in WMU 90A, 572 in WMU 90B) and an increase over the number issued in previous hunts (200 in WMU 90A, 450 in WMU 90B).

2) Implement a selective harvest system in WMU 90 in conjunction with the controlled deer hunt by 1986. Results of the 1985 hunt will help evaluate the impact of the large doe harvest in 1984 and facilitate allocations of a quota of antlerless tags for the 1986 hunt. Implementation of a selective harvest system would allow changes to the deer hunt season to provide more recreational opportunities without jeopardizing the deer herd health.

3) Implement a preferential draw to ensure some hunters do not consistently miss out in participating in the controlled deer hunt due to the luck of the draw. This would receive wide support of the majority of hunters and would help quell concern about the abundance of non-resident hunters particularly in WMU 90A.

FIG. 1 Controlled Deer Hunt - Wildlife Management Unit 90

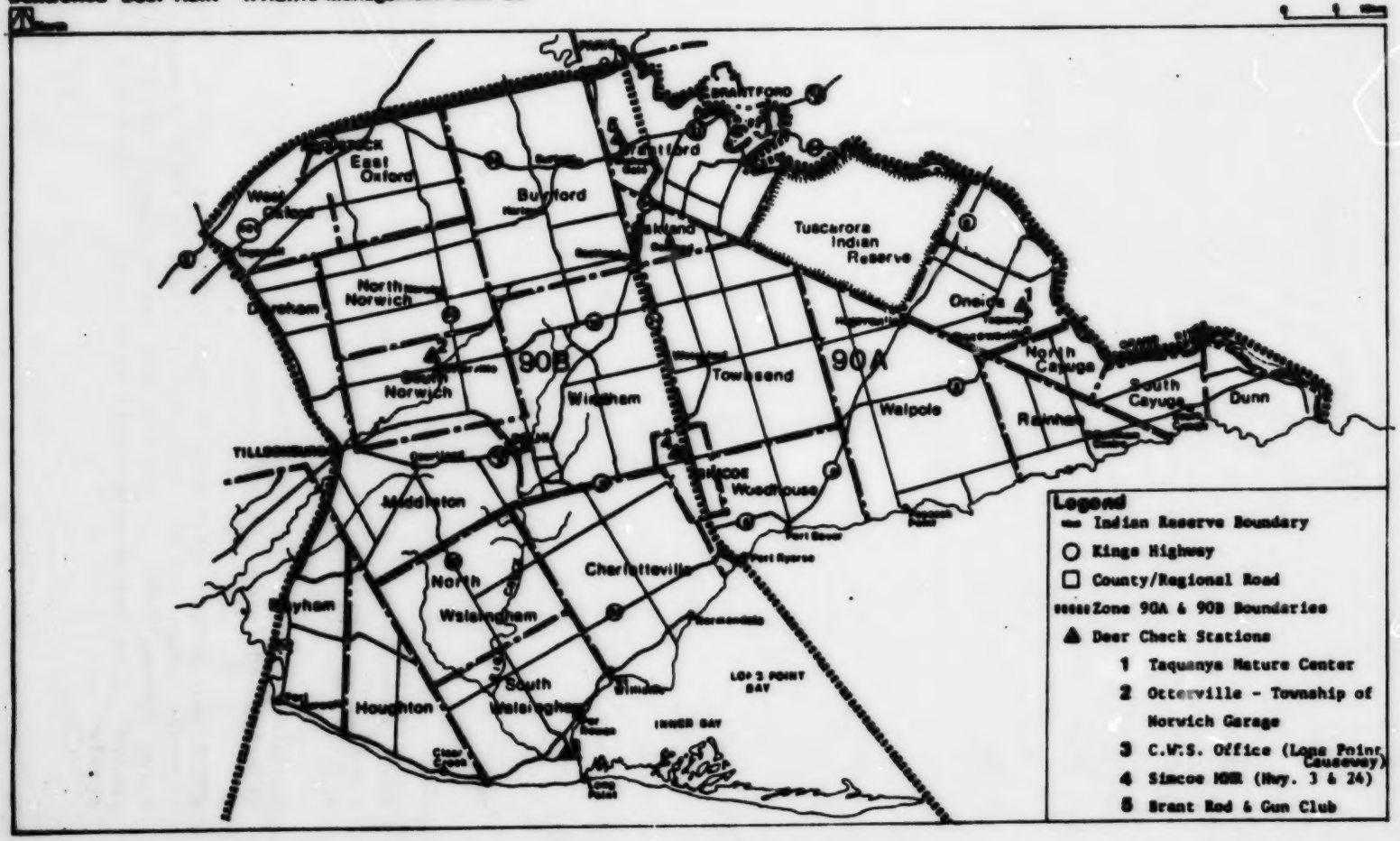

TABLE 1. Numbers of applications received, validation tags issued and mandatory reports received, and the proportion of hunters issued tags who hunted, per WMU and for combined WMU's for the 1980, 1981, 1982, 1983, and 1984 hunting seasons.

Year	Unit[1]	No. Applications	No. Tags Issued to Applicants	No. Tags Issued to Farmers/ Landowners	Total No. Tags Issued	No. Mandatory Reports Received	% Who Hunted
1980	98	479	150	162	312	100[2]	85.0
	97	239[3]	301	105	406	100[2]	73.0
	TOTAL	718	451	267	718	200[2]	81.0
1981	93	494	150	173	323	--	--
	94	337	300	124	424	--	--
	TOTAL	831	450	297	747	742	88.5
1982	90A	499	205	200	405	382	93.1
	90B	571	454	321	775	709	92.8
	TOTAL	1070	659	521	1180	1091	92.9
1983	90A	527	200	206	406	377	87.0
	90B	582	450	321	771	711	84.0
	TOTAL	1109	650	527	1177	1088	85.0
1984	90A	549	336	194	530	486	91.2
	90B	613	572	340	912	836	88.5
	TOTAL	1162	908	534	1442	1322	89.5

1. WMU's 98 (1980) and 93 (1981) are identical, enlarged by 20.8% in area to WMU 90A (1982). WMU's 97 (1980) and 94 (1981) are identical, enlarged by 47.5% in area to WMU 90B (1982).

2. Mandatory reporting not required in 1980. A subsample of hunters was randomly selected and interviewed by phone.

3. WMU 97 was under-subscribed in 1980 as the first choice. The remainder of stickers issued via the draw was allocated to hunters unsuccessful in obtaining a tag for WMU's 98, 99 and 100, who had indicated WMU 97 as their second choice. A second draw was held to allocate the remaining tags for WMU 97 fairly.

TABLE 2. Percentage of the draw applicants and of the hunters issued tags in WMU 90A and WMU 90B that resided in the WMU compared to the percentage of non-residents of the WMU for the 1984 controlled deer hunt.

HUNTERS	STATUS	WMU 90A	WMU 90B	BOTH
Draw applicants[1].	-Residents	56%	80%	69%
	-Nonresidents	44%	20%	31%
Draw tag holders[2].	-Residents	55%	81%	71%
	-Nonresidents	45%	19%	29%
All tag holders[3].	-Residents	72%	88%	82%
	-Nonresidents	28%	12%	18%

1. Percentage based on 549 applicants for WMU 90A and 613 applicants for WMU 90B.

2. Percentage based on 300 mandatory reports for WMU 90A and 523 mandatory reports for WMU 90B.

3. Percentage based on 486 mandatory reports for WMU 90A including 186 from farmer /landowners and 836 mandatory reports for WMU 90B including 313 from farmer/landowners. All farmer/landowners are considered residents of the WMU.

TABLE 3. Total land and forested area, number of validation tags issued in 1984, and density of tags issued, for various wildlife management units with controlled deer hunts in Southern Ontario.

DISTRICT	WMU	AREA (km^2) TOTAL	AREA (km^2) FOREST (%)	# VALIDATION TAGS ISSUED	DENSITY (# TAGS /km^2) TOTAL	DENSITY (# TAGS /km^2) FOREST
SIMCOE	90A	1354	187 (13.8%)	530	0.39	2.83
	90B	2288	565 (24.7%)	912	0.40	1.61
NIAGARA[1].	89A	684	94 (13.8%)	312	0.46	3.32
	*89B	980	140 (14.3%)	606	0.62	4.33
BRACEBRIDGE[2].	53B	212	210 (99.0%)	249	1.17	1.19
AYLMER[3].	**91A	1206	148 (12.3%)	214	0.18	1.45
	**91B	1041	152 (14.6%)	325	0.31	2.14
	92A	1203	186 (15.5%)	35	0.03	0.19
	92B	1159	221 (19.1%)	264	0.23	1.19
	92C	715	108 (15.1%)	120	0.17	1.11
	**92D	935	152 (16.3%)	303	0.32	1.99
WINGHAM[4].	85A	870	141 (16.2%)	344	0.40	2.44
	85B	1587	240 (15.1%)	420	0.26	1.75
	85C	1173	133 (11.3%)	344	0.29	2.59
LINDSAY[5].	75	1484	348 (23.5%)	590	0.40	1.70
CAMBRIDGE[6].	87D	496	155 (31.3%)	445	0.90	2.87
	87C	231	81 (35.1%)	148	0.64	1.83
	*87B	386	70 (18.1%)	180	0.47	2.57
	79A	118	28 (23.7%)	63	0.53	2.25
	79C & D	652	210 (32.2%)	524	0.80	2.50
TOTAL		18775	3569 (19.0%)	6928	0.37	1.94
RANGE		118-2288	28-565 (11.3-99%)	35-912	0.03-1.17	0.19-4.33

SOURCE:
1. B. Lewies
2. C. Lauer
3. P. Hunter (area calculated by D. Reid from 1958 FRI)
4. M. Malhiot
5. S. Jones
6. N. Tilt

*WMU's adjacent WMU 90A
**WMU's adjacent WMU 90B

TABLE 4. Enforcement activities during the 1984 controlled deer hunt in Wildlife management unit 90A and 90B.

DATE	OFFICER	WMU	NO. HUNTERS CHECKED	NUMBER OF WARNINGS	NUMBER OF CHARGES*	NO. HOURS WORKED
Nov. 5	065	90B	24	2	0	8
	054	90A	20	0	0	8
	294	90A	20	1	0	9
	166	helicopter	61	1	0	8
	340	90B	26	0	0	8.5
	100	90B	42	3	2	8
TOTAL		90A & B	193	7	2	49.5
Nov. 6	065	90B	31	1	0	8
	054	90A	37	0	0	8
	294	90A	46	0	0	8
	166	helicopter	38	2	0	8
	100	90B	32	2	0	8
TOTAL		90A & B	184	5	0	40
Nov. 7	065	90B	21	0	0	8
	054	90A	44	0	0	8
	294	90A	37	1	0	8
	340	90B	22	0	0	8
	100	90B	28	1	0	8
TOTAL		90A & B	152	2	0	40
Nov. 8	065	90B	29	0	0	8
	054	90A	35	0	0	8
	294	90A	42	1	0	8
	340	90B	54	1	0	8
	100	90B	34	0	0	8
TOTAL		90A & B	194	2	0	40
Nov. 5-8 TOTAL		90A & B	723	16	2	169.5

* 2 charges for hunting deer without a validation permit. Several other persons are being investigated in regards to making false statements on their landowner affidavit. Charges are pending.

TABLE 5. Comparison of enforcement activities during the 1981-1984 controlled deer hunt in WMU 90.

DATE	ENFORCEMENT EFFORT # MAN-DAYS	# MAN-HOURS	# HUNTER CONTACTS	# WARNINGS	# CHARGES	% (# WARNINGS + CHARGES) / # HUNTER CONTACTS
Nov. 2-5/81	14	176	497	15	10	5.0%
Nov. 1-4/82	26	289	768	2	7	1.2%
Nov. 7-10/83	23	185	535	8	4	2.2%
Nov. 5-8/84	21	169	723	16	2	2.5%
1981-84 Mean	21	205	631	10	6	2.5%

TABLE 6. Daily and total hunting effort during the annual controlled deer hunt in WMU's 90A and 90B, 1980-84.

YEAR	WMU	# HUNTERS/DAY				#MAN-DAYS	# MAN-HOURS/DAY				#MAN-HOURS
		DAY 1	DAY 2	DAY 3	DAY 4	TOTAL	DAY 1	DAY 2	DAY 3	DAY 4	TOTAL
1980	90A	--	--	--	--	710[1]	1930	1490	1230	--	4650
	90B	--	--	--	--	724[1]	2120	1390	1230	--	4740
	TOTAL	--	--	--	--	1434[1]	4050	2880	2460	--	9390
1981	TOTAL	589	544	488	442	2063	4115	3547	3023	2649	13384
1982	90A	320	294	259	235	1108	2354	2053	1682	1159	7248
	90B	586	562	530	466	2144	4116	2807	3482	2764	14169
	TOTAL	906	856	789	701	3252	6470	5860	5164	3923	21417
1983	90A	325	301	271	240	1137	2362	2122	1867	1445	7795
	90B	595	560	541	483	2179	4340	3802	3559	3065	14766
	TOTAL	920	861	812	723	3316	6702	5924	5426	4510	22561
1984	90A	449	414	360	349	1572	3386	2943	2520	2457	11306
	90B	752	706	673	625	2756	5402	4787	4368	4064	18621
	TOTAL	1201	1120	1033	974	4328	8788	7730	6888	6521	29927

1. 1980 effort in man-days estimated by dividing the estimated effort in man-hours by 6.55 hours/day i.e. the mean hours per day for the 1981 and 1982 seasons.

TABLE 7. Total number of deer seen each day by all hunters and mean number seen each day per hunter as reported on mandatory reports for the 1982, 1983 and 1984 controlled deer hunts.

WMU		90A			90B			TOTAL		
Year		1982	1983	1984	1982	1983	1984	1982	1983	1984
TOTAL NUMBER DEER SEEN	DAY 1	505	737	898	538	615	625	1043	1352	1523
	2	397	569	815	436	329	527	833	898	1342
	3	388	452	594	383	383	539	771	835	1133
	4	278	392	641	313	330	502	591	722	1143
	TOTAL	1568	2150	2948	1670	1657	2193	3238	3807	5141
NUMBER DEER SEEN PER HUNTER-DAY	DAY 1	1.49	2.27	2.00	0.84	1.03	0.83	1.07	1.47	1.27
	2	1.27	1.89	1.97	0.71	0.59	0.75	0.89	1.04	1.20
	3	1.41	1.67	1.65	0.66	0.71	0.80	0.90	1.03	1.10
	4	1.11	1.64	1.84	0.61	0.68	0.80	0.78	1.00	1.17
	TOTAL	1.33	1.90	1.87	0.71	0.76	0.80	0.92	1.15	1.19

1. Data projected to include missing information from hunters failing to submit mandatory reports.

TABLE 8. Hunter success ratios and the average number of man-days required to harvest a deer in WMU 90A and WMU 90B for the 1980, 1981, 1982, 1983, and 1984 controlled deer hunts.

Year	WMU	#Active Hunters Surveyed	#Deer Reported Harvested	% Hunter Success	Total Effort (man-days)	Total Harvest (# deer)	Man-days per deer
1980[1].	90A	85	30	35.3	710	94	7.6
	90B	73	8	11.0	724	31	23.4
	Total	158	38	24.1	1434	125	11.5
1981[2].	90A	286	83	29.0	892	85	10.5
	90B	375	52	13.9	1171	53	22.1
	Total	661	135	20.4	2063	138	14.9
1982[3].	90A	351	98	27.9	1108	98	11.3
	90B	657	97	14.8	2144	97	22.1
	Total	1008	195	19.3	3252	195	16.7
1983[4].	90A	328	124	37.8	1137	134	8.5
	90B	597	94	15.7	2179	102	21.4
	Total	925	218	23.6	3316	236	14.1
1984[5].	90A	443	172	38.8	1572	188	8.4
	90B	740	124	16.8	2756	135	20.4
	Total	1183	296	25.0	4328	323	13.4

1. 1980 data from Deyne (1980) based on telephone survey of 200 of 718 people issued validation tags.

2. 1981 data from Reid (1981) based on 742 mandatory reports representing 747 tags issued. Effort per WMU originally estimated but calculated here from combined effort for both WMU's based on proportion of stickers issued in each WMU i.e. 323/747 in WMU 90A and 424/747 in WMU 90B.

3. 1982 data based on 1091 mandatory reports representing 1180 tags issued.

4. 1983 data based on 1088 mandatory reports representing 1177 tags issued.

5. 1984 data based on 1322 mandatory reports representing 1442 tags issued.

TABLE 9. Number of deer checked, number of deer harvested and hunter success, for each day of the 1984 controlled deer hunt in WMU 90A and 90B.

WMU	FACTOR[1]	DATE NOV. 5	NOV. 6	NOV. 7	NOV. 8	TOTAL
90A	C	28	15	18	72	133[2]
	HC	65	41	31	26	163
	RH	74	49	36	29	188
	% TRH	39.5	26.2	19.2	15.1	100.0
	% HS	16.5	11.8	10.0	8.1	38.8
90B	C	22	14	16	49	101[3]
	HC	41	25	26	23	115
	RH	47	32	30	26	135
	% TRH	34.7	23.4	22.6	19.4	100.1
	% HS	6.2	4.5	4.5	4.2	16.8

1. Factor C = number of deer checked at stations each day.
Factor HC = number of deer harvested each day that were checked at stations.
Factor RH = total reported harvest of deer projected to include those hunters who failed to report.
Factor % TRH = total reported harvest of deer each day divided by the total reported harvest for all days, times 100.
Factor %HS = percentage hunter success i.e. number of deer harvested and reported divided by the number of active hunters times 100.

2. remaining 30 deer checked after season closed.

3. remaining 14 deer checked after season closed.

TABLE 10. Number of deer checked at stations (and the total reported harvest[1]) from each township in WMU 90A and 90B during the annual controlled deer hunt 1980-1984.

WMU	TOWNSHIP	YEAR 1980	1981	1982	1983	1984
90A	Dunn	8	10 (9)	8 (13)	8	12 (17)
	N. Cayuga	8	13 (13)	20 (13)	18	27 (22)
	S. Cayuga	11	1 (9)	4 (11)	16	17 (28)
	Oneida	24	16 (16)	14 (22)	20	30 (38)
	Rainham	12	7 (8)	10 (11)	11	27 (21)
	Townsend	2	2 (2)	1 (1)	2	7 (6)
	Walpole	7	25 (25)	19 (21)	26	32 (29)
	Woodhouse	6	1 (1)	1 (2)	4	8 (10)
	Oakland	--	-- (--)	2 (2)	1	0 (0)
	Brantford	--	-- (--)	1 (2)	4	3 (1)
	Unknown	0	0 (--)	1 (0)	0	0 (0)
	TOTAL	78	75 (83)	81 (98)	110 (124)	163 (172)
	% of T.E.H.[2]	83.0	88.2(97.6)	82.7(100)	82.1(92.5)	86.7(91.5)
90B	Oakland	--	-- (--)	0 (0)	0	0 (0)
	Brantford	--	-- (--)	0 (0)	0	0 (0)
	Charlotteville	3	11 (12)	13 (16)	8	18 (14)
	Houghton	1	5 (5)	3 (3)	7	3 (3)
	Middleton	4	5 (5)	6 (6)	2	1 (2)
	N. Walsingham	0	3 (3)	1 (5)	2	1 (1)
	S. Walsingham	16	24 (25)	15 (17)	20	34 (38)
	Wingham	0	2 (2)	1 (3)	4	14 (16)
	Burford	--	-- (--)	14 (12)	14	15 (18)
	S. Norwich	--	-- (--)	3 (4)	1	1 (5)
	N. Norwich	--	-- (--)	12 (18)	5	9 (9)
	E. Oxford	--	-- (--)	11 (5)	9	2 (2)
	W. Oxford	--	-- (--)	5 (4)	5	1 (2)
	Dereham	--	-- (--)	0 (0)	0	4 (0)
	Bayham	--	-- (--)	1 (1)	4	11 (11)
	Unknown	--	-- (--)	0 (3)	0	0 (0)
	TOTAL	24	50 (52)	85 (97)	81 (94)	114 (125)
	% of T.E.H.[2]	77.4	94.3(98.1)	87.6(100)	79.4(92.2)	84.4(92.6)

1. Number of deer reported on mandatory reports per township not extrapolated to include hunters who failed to report. Not available for 1980 and 1983.

2. T.E.H. = Total estimated harvest.

TABLE 11. Total land and forested area, estimated 1984 deer harvest and harvest density for various wildlife management units in Southern Ontario[1].

DISTRICT	WMU	AREA[3] (km^2) TOTAL	AREA[3] (km^2) FOREST(%)	#DEER HARVESTED[2]	HARVEST DENSITY (# DEER/km^2) TOTAL	HARVEST DENSITY (# DEER/km^2) FOREST
Simcoe	90A	1354	187(13.8)	188	0.14	1.01
	90B	2288	565(24.7)	135	0.06	0.24
Niagara	87B	684	94(13.8)	71	0.10	0.76
	*89B	980	140(14.3)	200	0.20	1.43
Bracebridge	53B	212	210(99.0)	113	0.53	0.54
Aylmer	**91A	1206	148(12.3)	36	0.03	0.24
	**91B	1041	152(14.6)	89	0.09	0.59
	92A	1203	186(15.5)	4	0.00	0.02
	92B	1159	221(19.1)	42	0.04	0.19
	92C	715	108(15.1)	19	0.03	0.18
	**92D	935	152(16.3)	41	0.04	0.27
Wingham	85A	870	141(16.2)	74	0.09	0.52
	85B	1587	240(15.1)	85	0.05	0.35
	85C	1173	133(11.3)	64	0.05	0.48
Lindsay	75	1484	348(23.5)	143	0.10	0.41
Cambridge	87D	496	155(31.3)	89	0.18	0.57
	87C	231	81(35.1)	47	0.20	0.58
	*87B	386	70(18.1)	38	0.10	0.54
	79A	118	28(23.7)	19	0.16	0.68
	79C&D	652	210(32.2)	90	0.14	0.43
TOTAL		18775	3569(19.0)	1587	0.08	0.44

1. Data for controlled deer hunts in WMU's administered by Huronia and Chatham districts not available.

2. Data from computer printout provided by Wildlife Branch extropolated to include deer harvested by hunters failing to submit mandatory reports. Cambridge district data provided by N. Tilt.

3. Source of information on area: Simcoe and Aylmer - D. Reid; Niagara - B. Lewies: Bracebridge - C. Lauer; Wingham - M. Malhiot; Lindsay - S. Jones, and; Cambridge - N. Tilt.

* WMU's adjacent WMU 90A
** WMU's adjacent WMU 90B

TABLE 12. Summary of comments made by hunters on 1984 controlled deer hunt mandatory reports, for WMU's 90A and 90B.

COMMENT RELATED TO:	NUMBER OF COMMENTS			% OF TOTAL		
	90A	90B	BOTH	90A	90B	BOTH
- want longer season, split season, Saturdays	14	83	97	7	27	19
- complimentary of hunt	23	65	88	11	21	17
- want later season	27	38	65	13	12	13
- deer were common	16	32	48	8	10	9
- deer numbers down	14	12	26	7	4	5
- complain of non-residents	25	0	25	12	0	5
- complain of trespassing/hunter numbers	12	13	25	6	4	5
- want slugs only	15	5	20	7	2	4
- complain of helicopter	9	4	13	4	1	3
- want shorter season	10	2	12	5	1	2
- access to land problem	5	7	12	2	2	2
- want rifles allowed	3	9	12	1	3	2
- complain of party size	4	7	11	2	2	2
- earlier draw	7	4	11	3	1	2
- want dogs allowed	0	10	10	0	3	2
- complain of enforcement	2	5	7	1	2	1
- complain of archery season	5	2	7	2	1	1
- want relective harvest	6	0	6	3	0	1
- complain of check station times	4	1	5	2	<1	1
- want muzzleloaders only	4	1	5	2	<1	1
- others	6	5	11	3	2	2
TOTAL	211	305	516	101	100	99

TABLE 13. Number of deer checked at stations per age and sex for WMU 90A and 90B during the 1984 controlled deer hunt.

	W.M.U.								
	90A			90B			BOTH		
	SEX			SEX			SEX		
AGE (YEARS)	M	F	BOTH	M	F	BOTH	M	F	BOTH
0½	36	23	59	23	21	44	59	44	103
1½	35	13	48	20	14	34	55	27	82
2½	11	10	21	9	6	15	20	16	36
3½	12	8	20	2	8	10	14	16	30
4½	5	5	10	2	3	5	7	8	15
5½	0	1	1	2	0	2	2	1	3
6½	0	0	0	0	2	2	0	2	2
7½	0	0	0	0	1	1	0	1	1
?	2	2	4	2*	0	2	4	2	6
TOTAL	101	62	163	50	55	115	161	117	278

*based on weight, determined to be adult.

TABLE 14. The age and sex of harvested deer reported on mandatory reports compared with the sample of deer checked at deer check stations, for the 1984 controlled deer hunt in wildlife management units 90A and 90B.

Age and Sex	No. Deer Reported[1] (%)			No. Deer Checked (%)		
	90A	90B	Both	90A	90B	Both
Female Fawn	28 (16.3)	23 (18.5)	51 (17.2)	23 (14.1)	21 (18.3)	44 (15.8)
Male Fawn	40 (23.3)	24 (19.4)	64 (21.6)	36 (22.1)	23 (20.0)	59 (21.2)
Female Adult	40 (23.3)	37 (29.8)	77 (26.0)	37 (22.7)	34 (29.6)	71 (25.5)
Male Adult	64 (37.2)	40 (32.3)	104 (35.1)	63 (38.7)	37 (32.2)	100 (36.0)
Unknown	0 (----)	0 (----)	0 (----)	4 (2.5)	0 (----)	4 (1.4)
TOTAL	172 (100.1)	124 (100.0)	296 (99.9)	163 (100.1)	115 (100.1)	278 (99.9)

[1]. Based on reports received - not projected to compensate for missing reports.

TABLE 15. Comparison of the age and sex structure of deer harvested and checked at stations for the 1980-1984 controlled deer hunts in WMU 90A.

Year	Total # Deer Checked	Fawns		Yearlings		Females (all ages)		Bucks (1½ yrs.+)		F:M Ratio[1]		Fawn: Doe Ratio[2]
		#	%	#	%	#	%	#	%	Fawn	Adult	
1980	78	40	51.3	12	15.4	37	47.4	22	28.2	1.11	0.73	2.50
1981	75	30	40.0	20	26.7	37	49.3	22	29.3	0.87	1.05	1.30
1982	81	34	42.0	23	28.4	39	48.1	25	30.9	1.27	0.80	1.70
1983	110	46	41.8	32	29.4	39	35.5	44	40.0	0.70	0.45	2.30
1984	163	59	36.2	48	29.4	62	38.0	63	38.7	0.64	0.62	1.51
1980 - 83 (average)	344	150	43.6	87	25.3	152	44.2	113	32.8	0.95	0.70	1.90
1980 - 84 (average)	507	209	41.2	135	26.6	214	42.2	176	34.7	0.85	0.66	1.80

1. Four year (1980-83) and five year (1980-84) averages are based on the total number of females and males sampled over the entire periods rather than on arithmetic means of the ratios.

2. Four year (1980-83) and five year (1980-84) averages are based on the total number of fawns and does sampled over the entire periods rather than on arithmetic means of the ratios.

TABLE 16. Comparison of the age and sex structure of deer harvested and checked at stations for the 1980-1984 controlled deer hunts in WMU 90B.

Year	Total # Deer Checked	Fawns		Yearlings		Females (all ages)		Bucks (1½ yrs.+)		F:M Ratio[1].		Fawn: Doe Ratio[2].
		#	%	#	%	#	%	#	%	Fawn	Adult	
1980	23	8	40.0	8	40.0	7	30.4	11	47.8	0.60	0.36	2.00
1981	50	21	42.0	18	36.0	22	44.0	21	42.0	2.00	0.38	2.63
1982	85	37	43.5	20	23.5	37	43.5	24	28.2	0.90	0.75	2.11
1983	81	27	33.3	18	22.2	26	32.1	34	42.0	0.35	0.47	1.69
1984	115	44	38.3	34	29.6	55	47.8	37	32.2	0.91	0.92	1.29
1980-83 (average)	239	93	38.9	64	26.8	92	38.5	90	37.7	0.81	0.51	2.02
1980-84 (average)	354	137	38.7	98	27.7	147	41.5	127	35.9	0.84	0.63	1.71

1. Four year (1980-83) and five year (1980-84) averages are based on the total number of females and males sampled over the entire periods rather than on arithmetic means of the ratios.

2. Four year (1980-83) and five year (1980-84) averages are based on the total number of fawns and does sampled over the entire periods rather than on arithmetic means of the ratios.

TABLE 17. Mean dressed weights (kilograms) and weight ranges for fawns, yearlings and older deer per sex for WMU's 90A and 90B during the 1984 controlled deer hunt.

WMU	SEX		AGE $0\frac{1}{2}$	AGE $1\frac{1}{2}$	AGE $2\frac{1}{2}+$
90A	F	Mean	28.2	46.1	48.4
		Std. Dev.	5.4	6.6	5.1
		# Sampled	17	12	18
		Range	18.0-39.7	37.8-59.0	41.0-59.0
	M	Mean	30.2	56.7	78.0
		Std. Dev.	4.3	8.3	12.7
		# Sampled	25	30	26
		Range	22.5-38.5	44.5-83.9	50.0-102.0
90B	F	Mean	25.7	43.5	45.4
		Std. Dev.	5.7	6.3	6.5
		# Sampled	16	11	17
		Range	13.5-34.0	27.5-51.0	32.0-54.3
	M	Mean	30.3	55.7	73.7
		Std. Dev.	6.2	6.1	10.7
		# Sampled	18	16	12
		Range	17.0-37.5	47.0-70.0	59.0-93.5

Note: Dressed weight includes carcass minus all internal organs.

TABLE 18. Mean dressed weights (kilograms) and weight ranges for fawn, yearling and older deer per sex for combined WMU's 90A and 90B in 1980, 1981 1982, 1983, and 1984.

Sex	Year	Age								
		0½			1½			2½+		
		MEAN	(S.D.)	RANGE (#)	MEAN	(S.D.)	RANGE (#)	MEAN	(S.D.)	RANGE (#)
Female	1980	29.4	(4.2)	23-26 (21)	45.0	(2.4)	43-51 (6)	52.0	(7.0)	42-63 (11)
	1981	28.7	(4.7)	22-39 (22)	47.9	(5.8)	42-61 (9)	51.1	(6.9)	41-65 (14)
	1982	27.2	(4.3)	19-37 (29)	47.8	(5.9)	38.57 (10)	49.9	(5.8)	35-58 (18)
	1983	30.8	(2.9)	25-36 (16)	43.3	(4.3)	38-51 (10)	51.8	(9.2)	40-78 (16)
	1984	27.0	(5.6)	14-40 (33)	44.9	(6.5)	28-59 (23)	46.9	(6.0)	32-59 (35)
Male	1980	33.6	(6.3)	24-41 (22)	54.1	(7.3)	38-66 (12)	78.7	(17.7)	55-119 (19)
	1981	32.2	(4.8)	18-38 (17)	55.7	(13.3)	28-73 (17)	80.8	(11.2)	64-94 (13)
	1982	31.2	(5.7)	19-41 (30)	56.3	(7.5)	34-72 (22)	79.6	(17.1)	40-102 (20)
	1983	32.6	(5.6)	16-44 (39)	58.5	(7.2)	49-74 (24)	80.0	(14.0)	51-124 (36)
	1984	30.3	(5.1)	17-39 (43)	56.4	(7.5)	45-84 (46)	76.7	(12.2)	50-102 (38)

Note: Dressed weight includes carcass minus all internal organs.

(S.D.): Standard deviation.

(#): Sample size.

TABLE 19. Age, antler points, beam diameter, weight, and Township of kill of the largest deer checked in WMU 90A and 90B for the 1984 controlled deer hunt.

WMU	Age	Antlers		Dressed Weight(kg)	Township
		# Points	Beam Diam. (mm)		
90A	1½	8	24	83.9	Rainham
	2½	6	28	89.8	Rainham
	3½	8	34	82.5	Brantford
	3½	10	24	83.4	Walpole
	3½	6	32	90.6	Oneida
	3½	8	39	95.3	Walpole
	3½	6	32	96.2	N. Cayuga
	3½	9	29	86.0	Walpole
	4½	10	33	85.0	Walpole
	4½	-	-	87.3	Rainham
	4½	8	33	89.2	N. Cayuga
	4½	10	44	102.0	N. Cayuga
90B	2½	9	30	83.0	Burford
	2½	10	33	84.5	Burford
	4½	13	40	83.0	Bayham
	4½	7	36	93.5	Burford

TABLE 20. Quality of deer from WMU 90A and WMU 90B in 1980-1984 based on yearling buck characteristics and criteria used in Pennsylvania.*

WMU	Year	Mean Beam Diameter(#)mm	Mean Number Points(#)	Mean Dressed Weight(kg)	Quality
90A	1980	22.3 (6)	5.7 (7)	55.8(6)	excellent
	1981	24.8 (9)	6.2 (9)	63.8(8)	excellent
	1982	20.3 (12)	5.2 (11)	58.5(11)	very good-excellent
	1983	20.3 (19)	7.5 (19)	58.4(15)	very good
	1984	21.3 (29)	5.3 (28)	56.7(30)	excellent
90B	1980	19.9 (5)	4.0 (3)	52.7(6)	fair-excellent
	1981	21.4 (5)	6.2 (5)	59.8(5)	excellent
	1982	21.5 (11)	5.5 (8)	54.5(10)	excellent
	1983	21.5 (10)	3.8 (10)	58.8(9)	fair-excellent
	1984	21.1 (10)	5.3 (16)	55.7(16)	excellent
*Pennsylvania		21+	5.1+	50.3+	excellent
		20	4.6-5.0	48.1-49.9	very good
		19	4.1-4.5	45.8-48.0	good
		18	3.6-4.0	43.5-45.7	fair
		17	3.5	43.1	poor
**Northern Michigan		15.8	2.6	43	from poor range
		20.2	4.3	53	from poor range

* Long. L. 196 . Antlerless Deer Licence Allocations. Reprint from Penn. Game News, Div. of Info. & Educ., Penn. Game Comm., Harrisburg, Pa.8 p.

** Blouch, R.I.1984. Northern Great Lakes States and Ontario Forests. In White-tailed Deer Ecology and Management. Ed. by L.K. Halls. Harrisburg, P.A. Stackpole Books. 870 p.

TABLE 21. Frequency of milk present in does when harvested in WMU 90A and 90B during the annual controlled deer hunt, 1980-,984.

		# Does with milk/total # sampled per age class			% of Does with milk per age class		
WMU	Year	1½	2½+	Total	1½	2½+	Total
90A	1981	5/7	12/12	17/19	71.4	100.0	89.5
	1982	0/8	10/10	10/18	0.0	100.0	55.5
	1983	7/8	9/9	16/17	87.5	100.0	94.1
	1984	7/11	18/18	25/29	63.6	100.0	86.2
	1981-84	19/34	49/49	68/83	55.9	100.0	81.9
90B	1981	2/4	3/3	5/7	50.0	100.0	71.4
	1982	4/6	7/8	11/14	66.7	87.5	78.6
	1983	3/4	6/7	9/11	75.0	85.7	81.8
	1984	8/12	13/16	21/28	66.7	81.3	75.0
	1981-84	17/26	29/34	46/60	65.4	85.3	76.7
Both	1980	2/4	8/12	10/16	50.0	66.7	62.5
	1981	7/11	15/15	22/26	63.6	100.0	84.6
	1982	4/14	17/18	21/32	28.6	94.4	59.4
	1983	10/12	15/16	25/28	83.3	93.7	89.3
	1984	15/23	31/34	46/57	65.2	91.2	80.7
	1980-84	38/64	86/95	124/159	59.4	90.5	78.0

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10. Reid, D.J. 1983. The 1982 Controlled Deer Hunt in Wildlife Management Units 90A and 90B. Unpublished report, Ontario Ministry of Natural Resources, Simcoe District. 55 pp.

11. Reid, D.J. 1984. The 1983 Controlled Deer Hunt in Wildlife Management Units 90A and 90B. Unpublished report, Ontario Ministry of Natural Resources, Simcoe District. 69 pp.

Appendix I -

Fact Sheet - Simcoe District Controlled Deer Hunt, 1984

When:

Monday, November 5, 1984, to Thursday, November 8, 1984.

Where:

Wildlife Management Units (WMU) 90A and 90B which includes that area lying east of Hwy. 19, south of Hwy. 2 and west of the Grand River. (MAP ATTACHED)

Restrictions:

1. A free Validation Tag must be attached to the hunter's deer licence before the licence becomes valid to hunt deer in either WMU 90A or 90B.
2. Open to Ontario residents only.
3. Shotguns and muzzleloaders only.
4. No dogs.
5. Participants in the 1983 controlled hunt who failed to submit a mandatory report will not be eligible to apply in 1984.

How to Obtain a Validation Tag:

1. Farmers and Landowners - A hunter whose chief occupation is farming or who owns or rents and resides on a parcel of land of 50 acres or more is eligible for a tag. One other member of the immediate family who resides on the same property is also eligible for a tag. The hunter must sign an affidavit to verify one of the above conditions and submit his application to the Simcoe District Office. Applications should be submitted by October 26, 1984. In the case of corporate or joint ownership of a minimum of 50 acres, only one designated representative will be entitled to a tag. Affidavits will be checked for accuracy. Last year 7 persons were charged with making false statements on their affidavits - i.e. non-landowners attempting to get a validation tag without entering the draw.

2. Ontario Residents - Anyone who does not qualify as a farmer/landowner must enter his name in a lottery-type draw for a limited number of Validation Tags. Applications for this draw will be available at the Simcoe District Office from August 1 to August 31, 1984.

   Applications must be received at the Simcoe District Office by 5:00 p.m. August 31, 1984.

   Please ensure all information requested for all hunters is completed on the application form. APPLICATIONS WILL BE REJECTED IF THEY ARE NOT COMPLETE.

   A total of 650 tags will be available to hunt deer in WMU 90; 200 in sub-unit 90A,and; 450 in 90B.

   The draw will be held during the second week of September and successful applicants will be notified by the end of September. Applicants who have not been notified by the first week of October may assume they were not successful.

Mandatory Report:

All hunters who receive a validation tag to hunt deer in WMU 90 in 1984 will also receive a questionnaire concerning the hunt. That report must be completed, forwarded and received at the Simcoe District Office by NOVEMBER 22, 1984. The penalty for not submitting a report is the suspension of hunting privileges in any controlled hunt zone in the following year. Hunters who failed to submit their report in 1983 are not eligible to participate in this year's hunt. If you do not submit a report this year or if it becomes lost in the mail you will not be able to hunt in 1985. It is recommended that reports be forwarded by Registered Mail or hand delivered to the Simcoe District Office.

Check Stations:

All hunters who shoot a deer in 1984 are requested to bring their animal to a check station. The future of deer hunting in WMU 90 may depend upon the co-operation of all hunters to assist in this important effort. Hunters who submit a jaw or hide from their animal will receive a deer crest or hat respectively. Information on hunter success, hunting effort, and deer killed in past hunts (1980-1983) will be posted at each deer check station for interested hunters.

Check stations will be operated from 10:00 a.m. to 6:00 p.m. at the Taquanya Nature Centre; the Township of Norwich garage in Otterville; the Canadian Wildlife Service office on the Long Point Causeway; the corner of Hwy. 3 and 24 in Simcoe, and; the Brant Rod & Gun Club off Bishopsgate Road.

Comments:

1. Results of the 1983 hunt - About 236 deer were harvested by the 1179 eligible hunters. Hunter success was 38% in WMU 90A compared to 16% in WMU 90D.

   A large portion of fawns in the kill (38%) and a high frequency of yearling does with milk (83%) reflect the strong reproduction potential in the local herd.

   Forty deer checked by MNR staff were considered trophy bucks - the largest was 124 kg (273 lbs.) dressed weight.

   Mandatory reports were not received from 84 hunters who were issued validation tags in 1983. These hunters are not eligible to participate in the 1984 hunt. The above information was made available through the analysis of data contained on those reports submitted. The co-operation of hunters in providing this information is greatly appreciated. The knowledge gained from this data collection is very important for effective management of the resource.

2. Trespass will not be tolerated. Contact landowners well before the season to obtain permission to hunt on their property.

3. In the controlled hunt a hunter may shoot a deer of either sex without a special antlerless tag. In addition, a hunter may shoot an antlered deer for another member of his party. Party hunting for antlerless deer is prohibited.

4. Many hunters, on their mandatory reports, pass a comment on to the Ministry regarding the hunt. We are pleased to receive your comments but regret that we are unable to respond to most of them. If you wish to discuss a detail of the hunt or make a suggestion we would be happy to talk to you if you give us a call.

   Many reports suggest that future hunts should permit the use of rifles and dogs, and the season should be later and longer. All of those changes would result in a larger deer kill. At present the number of animals killed is controlled by the number of validation tags issued. To implement any of these suggestions would result in fewer tags available and a loss of potential hunting opportunities.

   There are also other problems associated with some of these ideas. Many municipalities would not support a deer hunt in the county if rifles were permitted. A shotgun is quite capable of killing a deer if the hunter is skillful with its use and aware of its limitations. A good hunter should know the range and accuracy of his weapon through repeated practice and be able to exercise wise judgement in selecting his shots.

   Unlike northern Ontario, where dogs are permitted, southern Ontario's private lands are usually enclosed by fences. Deer being chased by dogs frequently venture outside their familiar territory and are susceptible to becoming entangled in fences obscured by weeds or small shrubs.

5. Hunters are reminded that for deer hunting it is illegal to use a shotgun smaller than 20 gauge when loaded with shot or any shotgun loaded with shot smaller than SG or #1 buck.

6. Ammunition manufacturers offer the following comments for deer hunters who use shotguns:

   - Improved cylinder is the best smoothbore choke barrel for firing rifled slugs.
   - Rifled slug barrels with front and rear sights can be purchased for most popular makes of shotguns. Slugs can be fired from these barrels with excellent accuracy up to distances of 100 yards.
   - SSG loads can be fired from any shotgun choke although full choke provides the tightest patterns. It is best to obtain the highest quality ammunition available. SSG loads have so few pellets they are not capable of providing a pattern necessary for consistent clean kills except at extremely short ranges.
   - By planning your hunt and scouting your area well for deer activity you will increase your chances of encountering deer within shotgun range.
   - Wounded deer that are immediately pursued can be very difficult to recover. Waiting for about an hour before tracking will improve the odds of recovering a wounded deer. Careful tracking requires time, dedication and patience. If the animal you hit cannot be recovered only you are to blame.

REMEMBER - a little preparation before each fall's hunt can lead to many enjoyable and productive days afield. Have a safe hunt.

Appendix II

Ministry of Natural Resources
Ontario

№ 14612

APPLICATION FOR 1984 CONTROLLED DEER HUNT

The following person(s) apply to hunt deer in Wildlife Management Unit FIRST CHOICE ☐☐☐ SECOND CHOICE ☐☐☐

HUNTER No. 1
Last Name | First Name | Initial
Mailing Address (No. Street, R.R. or P.O. Box) | Telephone
City, Town or Village | Postal Code
Proof of Hunting Experience* | Year | Birthdate Mo. Day Yr.

FOR OFFICE USE ONLY
☐ 1 - Resident
☐ 2 - Non-resident
☐ 9 - Reject

HUNTER No. 2
Last Name | First Name | Initial
Mailing Address (No. Street, R.R. or P.O. Box) | Telephone
City, Town or Village | Postal Code
Proof of Hunting Experience* | Year | Birthdate Mo. Day Yr.

FOR OFFICE USE ONLY
☐ 1 - Resident
☐ 2 - Non-resident
☐ 9 - Reject

HUNTER No. 3
Last Name | First Name | Initial
Mailing Address (No. Street, R.R. or P.O. Box) | Telephone
City, Town or Village | Postal Code
Proof of Hunting Experience* | Year | Birthdate Mo. Day Yr.

FOR OFFICE USE ONLY
☐ 1 - Resident
☐ 2 - Non-resident
☐ 9 - Reject

HUNTER No. 4
Last Name | First Name | Initial
Mailing Address (No. Street, R.R. or P.O. Box) | Telephone
City, Town or Village | Postal Code
Proof of Hunting Experience* | Year | Birthdate Mo. Day Yr.

FOR OFFICE USE ONLY
☐ 1 - Resident
☐ 2 - Non-resident
☐ 9 - Reject

I hereby certify that the above information is correct.

SIGNATURE (ONLY ONE APPLICANT) _____ DATE _____

***Proof of hunting experience means hunting licence number and year issued OR Hunter Safety Certificate number and year issued.**
Incomplete applications or applications that cannot be read will not be accepted.
Duplicate applicants will be rejected.

— **Return to District of first choice.**
— **Only applications received on or before August 31, 1984 will be accepted.**

Appendix III - Initial news release in 1984 from Simcoe District regarding the availability of controlled deer hunt applications.

SIMCOE DISTRICT July 20, 1984

CONTROLLED DEER HUNT APPLICATIONS

Applications to enter the draw for the 650 openings in this fall's controlled deer hunt in wildlife management unit (WMU) 90 will be available August 1. The controlled deer hunt takes place November 5 to 8 in WMU 90A and 90B. These two WMU's cover the area between Woodstock, Brantford, Caledonia and Lake Erie.

Applications to enter the draw are available only at ministry of natural resources offices. Completed applications must be returned by August 31 to be eligible for the draw. "A hunter can apply as an individual or as a member of a party of up to 4 members" said Bob Ellah, enforcement coordinator with natural resources in Simcoe. "Your application will be rejected if your name appears on more than one application."

Two hundred validation stickers will be issued for WMU 90A and 450 stickers for WMU 90B. According to Ellah, over 1,100 applications were received for the 650 openings in the 1983 hunt. Thirty-eight percent of those applying to hunt in WMU 90A received a sticker last year compared with 77% for WMU 90B.

Any person who qualifies for a farmers licence to hunt deer, or who owns, or rents and legally resides on a parcel of land of at least 50 acres can get a validation sticker without entering the draw. One other member of the immediate family residing on the property is also eligible for a validation sticker. A special affidavit available at the district office must be signed to verify one of the above factors. Affidavits will be checked for accuracy. Last year seven persons were charged with making false statements on their affidavits -

i.e. non-landowners attempting to get a sticker without entering the draw. The farmer/landowner application is available at natural resources offices until October 26. In the 1983 hunt, 527 people got their validation sticker this way.

About 236 deer were harvested in the 1983 hunt by the 1,177 eligible hunters - hunter success was 38% in WMU 90A compared to 16% in WMU 90B.

Only 4 charges were laid by conservation officers during the hunt - all related to hunting deer without a validation sticker. Ellah said he hopes the 1984 hunt will run as smoothly as last year's hunt.

- 30 -

FOR MORE INFORMATION:

Bob Ellah
Enforcement Coordinator
Simcoe District
(519) 426-7650

M. F. McKenzie
District Manager
Simcoe District
(519) 426-7650

Ministry of Natural Resources
Ontario

RELEASE

Location: SIMCOE DISTRICT

Week ending: AUGUST 24, 1984

CONTROLLED DEER HUNT APPLICATIONS

The Ministry of Natural Resources advises that applications for the controlled deer hunt which takes place November 5 - 8 are still available.

These applications which may be picked up at OMNR's Simcoe office must be returned by August 31 to be eligible for the draw.

Any person who qualifies for a farmers licence to hunt deer should complete their application prior to October 26.

As in past years, mandatory reports on hunting activities will be required to be completed and submitted by November 22, 1984 by those persons participating in the 1984 controlled deer hunt.

New in 1984 is a draw for a shotgun provided by Ithacagun Inc. NY as incentive for submitting mandatory reports by the due date. Additional information on the hunt will be forwarded to successful applicants some time in late September.

- 30 -

FOR MORE INFORMATION:

DAVID REID
District Biologist
Simcoe District
(519)426-7650

M. F. MCKENZIE
District Manager
Simcoe District
(519)426-7650

Appendix V
Ministry of Natural Resources
Ontario

201579
Controlled Deer Hunt
Validation Tag

Dear Hunter:

You have been selected to participate in the Controlled Deer Hunt, November 5 to 8, 1984, in the Wildlife Management Unit (W.M.U.) indicated on the accompanying validation tag. Please read the following carefully:

1. The Controlled Deer Hunt Validation Tag must be attached to a 1984 deer licence to be valid. The licence holder is entitled to hunt in the wildlife management unit specified on the tag. These units were indicated on the information sheet received with your controlled hunt application.
2. Permitted firearms: W.M.U. 60B — shotguns only
   W.M.U. 92A, B, C, D — muzzle-loaders only;
   W.M.U. 78A — shotguns, muzzle-loaders and rifles;
   all other W.M.U.'s — shotguns and muzzle-loaders only.
3. No dogs are permitted in any controlled deer hunts.
4. All hunters who harvest a deer are requested to bring it to the nearest check station. These are indicated on the information sheet you obtained with your application, or call your District Office for direction.
5. THE ATTACHED MANDATORY REPORT MUST BE COMPLETED BY ALL PERSONS ISSUED VALIDATION TAGS AND RETURNED TO THE DISTRICT OFFICE ON OR BEFORE NOVEMBER 22, 1984. FAILURE TO COMPLY WILL VOID ELIGIBILITY FOR CONTROLLED HUNT PARTICIPATION IN 1985.
6. Trespass will not be tolerated. Obtain Landowner's permission to hunt.
7. Party hunting for antlered deer is permitted. A hunter may shoot as many antlered deer as there are valid tags in his party.

   Party hunting for antlerless deer is not permitted. A hunter may not tag another hunter's antlerless deer.

(DETACH HERE)

Ministry of Natural Resources
Ontario

1984 CONTROLLED DEER HUNT MANDATORY REPORT

TAG No. 201579
W.M.U. No. _____

NAME: _____ PHONE No.: _____

ADDRESS: _____ POSTAL CODE: _____

1. Did you hunt deer in the 1984 Controlled Deer Hunt?
   ☐ YES ☐ NO
   If "NO", you have completed this report, please fold and return.
2. Please complete this calendar for yourself only. (Do not include any deer seen or hours hunted by others in your party.)

	MON. NOV. 5	TUES NOV.6	WED. NOV.7	THURS. NOV.8
Number of deer seen				
Number of hours hunted				

3. What type of firearm(s) did you use during the controlled hunt?
   ☐ Shotgun ☐ Muzzle-loader ☐ Rifle (W.M.U. 78A only)
4. Did you use your seal to claim a deer?
   ☐ NO — please go on to question 5.
   ☐ YES — it was a:
   a) ☐2 female fawn ☐3 male fawn
      ☐4 female adult ☐5 male adult
   b) In what township was that deer shot? _____
   c) On what day was the deer shot? Nov. ☐, 1984
5. Comments: _____

FOR OFFICE USE ONLY ☐☐☐☐☐☐

IMPORTANT: Completion of this report is mandatory (Game and Fish Act - O. Reg. 297/82)
RETURN BY: NOVEMBER 22, 1984

Appendix VI

Ministry of Natural Resources

Ontario

№ 23386

FARMER/LANDOWNER AFFIDAVIT & APPLICATION FOR 1984 CONTROLLED DEER HUNT TAG

The following person(s) apply to hunt deer in Wildlife Management Unit: ☐☐☐

HUNTER No. 1

Last Name | First Name | Initial

Mailing Address (No. Street, R.R. or P.O. Box) | Telephone

City, Town or Village | Postal Code

Proof of Hunting Experience* | Year | Birthdate (Yr. Month Dy.)

3 CODE
FOR OFFICE USE ONLY
Landowner Tag Number

HUNTER No. 2

Last Name | First Name | Initial

Mailing Address (No. Street, R.R. or P.O. Box) | Telephone

City, Town or Village | Postal Code

Proof of Hunting Experience* | Year | Birthdate (Yr. Month Dy.)

3 CODE
FOR OFFICE USE ONLY
Landowner Tag Number

*** Proof of hunting experience means hunting license and year issued OR Hunter Safety Certificate number and year issued.**

I qualify for the above validation tag on the grounds that:

☐ My chief occupation is farming and I live upon and till land in W.M.U. _____

☐ I own a parcel of land of 50 acres (20 hectares) or more in W.M.U. _____

☐ I reside on and rent (lease) the same parcel of land of 50 acres (20 hectares) or more in W.M.U. _____

☐ I am the sole designated representative of the company, _____

which own(s) a parcel of land of 50 acres (20 hectares) or more in W.M.U. _____, and I am an officer (president, vice president, treasurer or secretary) of the company or one of the joint owners.

☐ I am the _____ of _____
(son, daughter or spouse)

who resides on and rents/owns the same parcel of land of 50 acres (20 hectares) or more in W.M.U. _____ and I am the only member of the immediate family residing on the above property to apply for a farmer/landowner validation tag.

I declare that _____ is eligible for the farmer/landowner validation tag on the grounds that the above is my _____ and is the only member of the immediate family residing on the property applying for the farmer/landowner validation tag.
(son, daughter, spouse)

The property referred to in the above is described as Lot(s) _____, Concession _____

Township _____, County _____, Acreage _____

I hereby certify that the above information is correct.

Signature: _____ _____
(ONLY ONE APPLICANT) DATE

Witnessed by: _____ _____
(M.N.R. OFFICIAL) DATE

Simcoe
October 19, 1984

NOVEMBER DEER HUNT IN SIMCOE DISTRICT REQUIRES CO-OPERATION BETWEEN HUNTER, LANDOWNERS AND MNR

A controlled four-day deer hunting season will again be open throughout the Haldimand-Norfolk Region and parts of adjoining counties, November 5 to 8.

The hunt, regulated by the Ministry of Natural Resources (MNR), is restricted to a controlled number of Ontario residents - using shotguns or muzzle-loading guns only. No rifles and no dogs are allowed.

To keep the hunting pressure in balance with the harvestable deer population, only a limited number of special non-farmer validation tags have been issued.

The number of participating hunters is restricted by a lottery-type draw. In the case of farmers or other landowners who rent or own at least 50 acres, a maximum of two validation tags per family may be issued. Eligible landowners are reminded that they must apply by October 26th. The deadline for non-landowners was August 31st.

'Controlled' hunts, such as the one being held in Simcoe District and other selected areas of Southern Ontario are a considerable refinement of the longer open season held elsewhere.

The special short season, with its limited number of hunters, gears the deer harvest to what the local herds can stand. It also considers the chiefly

"more..."

private land ownership pattern and restricts the type of firearm used to those with a very short range. The overall objective is still to provide as many hunting opportunities as possible.

The controlled hunt can also be designed to reduce problems which may arise from under-use of the resource. For example, if there are more deer in the area than the natural food supply can accommodate - problems such as crop damage, excessive road kills and malnutrition can develop.

The hunters themselves can, and do, contribute much to the continuation and improvement of their sport by understanding and obeying the regulations, reporting illegal activities and providing ministry biologists with information on the deer they have seen or shot.

To make the data collection easier for both hunters and biologists, MNR will operate five check stations throughout the Simcoe District during the hunt.

These are located as follows:

- Taquanyah Nature Centre, west of Cayuga;
- Norwich Township Garage in Otterville;
- Canadian Wildlife Service office on the Long Point Causeway;
- Corner of Highway #3 and 24 in Simcoe;
- Brant Rod and Gun Club off Bishopsgate Road.

The check stations will be open from 10:00 a.m. to 6:00 p.m.

Dave Reid, MNR's Simcoe District biologist, advises that MNR personnel at each station will determine the age and weight of the deer brought in- and charts will be posted to enable a comparison with previous hunts. Successful hunters who report in will receive an attractive crest.

This data, critical to determining the health of the herds, forms the basis of future deer management. This is an example of how hunters and game managers must, and do, work together to protect the future of the sport.

"more..."

The success, and future, of the hunt also depends greatly on the relations between hunter and landowner. All hunters are reminded that they must have the owner's permission to hunt on private land.

To avoid lost time and frustration during the hunt, each hunter should make his or her arrangements with the landowner well in advance---and keep in mind that the proper access to a farm is through the main gate. Both parties will then know who is in the field, at what times, where---and what success the hunter had. This makes for lasting good relations between both parties and a safer hunt.

To ensure that the regulations are adhered to, Bob Ellah, MNR's Enforcement Specialist in Simcoe, advises that the Ministry will be deploying extra enforcement staff and helicoptor patrols.

"This is the fourth consecutive controlled hunt in as many years - and we want everyone to have a safe, successful and legal hunt", says Ellah.

- 30 -

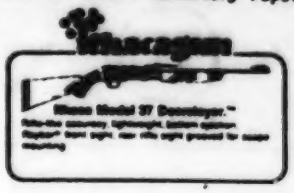
FOR MORE INFORMATION:

Bob Ellah
or
Peter Gill
Information Services Co-ordinator
MNR
Simcoe, Ontario
426-7650

Appendix VIII- Information sheet regarding incentives to return mandatory reports.

Ministry of Natural Resources
Ontario
Hon. Alan W. Pope, Minister
John R. Sloan, Deputy Minister

Ontario OUT OF DOORS



HELP ONTARIO WHITETAIL MANAGEMENT

AND HAVE A CHANCE TO WIN

AN ITHACA DEERSLAYER SHOTGUN

The Ministry of Natural Resources needs and appreciates your help in the management of deer in Southern Ontario.

Information on your deer hunt, along with biological information collected at check stations, is used in establishing future deer seasons. The better the information, the more closely the harvest can be regulated. Without good information, harvest regulations often must be overly restrictive. With good, timely information, more frequent longer seasons and larger harvests of deer can be allowed.

How can you help? By sending in your report promptly following your hunt. Complete the enclosed mandatory report and send it to the District Office of the Ministry of Natural Resources before the deadline date of November 22, 1984.

All return forms received on or before November 22 will be eligible to be drawn as the winner of an Ithaca Deerslayer shotgun.

In appreciation for the prompt return of information on your hunt, Ontario OUT OF DOORS Magazine, Ithaca, and the Ontario Ministry of Natural Resources, are making available ten beautiful Ithaca Deerslayer shotguns as prizes, one for each of the ten MNR districts of Southern Ontario where controlled deer hunts are held.

One "lucky" return will be drawn in each district and winners will be informed immediately. All winners' names will be published in Ontario OUT OF DOORS Magazine.

In further appreciation for your help in Ontario's deer management, the Ontario OUT OF DOORS Magazine is offering a beautiful 11" x 14" coloured print of a Wild Turkey suitable for framing. To get yours, just fill out the coupon below and forward it to Ontario OUT OF DOORS.

To be eligible, your return must be received by the deadline date - November 22, 1984.

Tear off and mail this form to:

Ontario OUT OF DOORS Magazine,
3 Church Street, Suite 202,
Toronto, Ont. M5E 1M2

I have cooperated by supplying my hunting report to the Ministry of Natural Resources. Please send me my free copy of your Wild Turkey print.

NAME _____

ADDRESS _____

TOWN _____ Postal Code _____

(Please print)

Appendix IX - Two district news releases issued on 14th November, 1984 which summarize preliminary hunt results.

Ministry of Natural Resources
Ontario

newsrelease
Simcoe District
November 14, 1984

FEW CHARGES DURING SPECIAL DEER SEASON

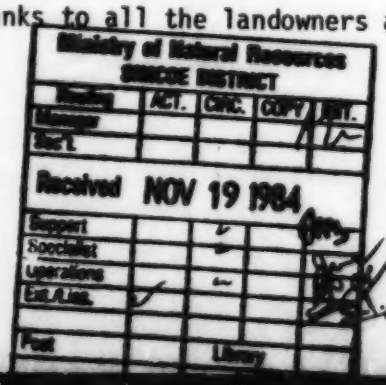
"We were very impressed with the spirit of cooperation shown by those who hunted during this year's local deer season" says Bob Ellah of the Ministry of Natural Resources (MNR) in Simcoe. Ellah, MNR's Enforcement Specialist for the Simcoe District, was commenting on this area's special deer season - from November 5 to 8.

Out of the 1223 hunters who may have participated, only two were charged by MNR staff for violations under Ontario's Game and Fish Act. The charges were based on failure to obtain the necessary deer hunt validation tag - as required in the regulations.

MNR staff also investigated trespass complaints --- and a trespass charge was laid by the O.P.P.. All hunters, regardless of their quarry, must have the owner's permission to hunt on private land.

On the positive side, Ellah points out that many hunters did the 'right thing' and made their arrangements with the landowners well ahead of the season. This landowner - hunter relationship is critical to the future of hunting --- especially in areas like the Simcoe District where 97% of the land is privately owned.

"In summary," says Ellah, "it was a safe, successful season and we (MNR) extend our compliments and thanks to all the landowners and hunters who contributed to it.



...2/

We are also grateful to the Brant Rod and Gun Club, The Township of Norwich, The Grand River Conservation Authority and the Canadian Wildlife Service for making their facilities available for deer checking stations during the special season."

A special deer season for bowhunters only remains open throughout Southwestern Ontario until December 9th.

- 30 -

For further information:

Bob Ellah

or

Peter Gill, Information Services Coordinator
Ministry of Natural Resources
645 Norfolk St. N.
Simcoe, Ontario
N3Y 3R2
Tel: (519) 426-7650

Ministry of Natural Resources
Ontario

Ministry of Natural Resources
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newsrelease

Simcoe District
November 14, 1984

SPECIAL AREA DEER SEASON A SUCCESS
- HUNTER REPORTS DUE BY NOVEMBER 22

This year's four day 'controlled' deer season in the Simcoe District is now over. Based on the number of deer taken and the cooperation between hunters, landowners and Ministry of Natural Resources (MNR) officials it was a great success.

According to Dave Reid, MNR's Simcoe District Biologist, hunter success was comparable to the '83 season. By Friday morning (November 9), 190 deer were examined at the district check stations "... and we expect more to be reported within the next few days."

In fact, whether or not each hunter was successful, he or she must file a 'mandatory report' with the Ministry by November 22nd. Failure to do so will mean non-eligibility for controlled hunt participation in 1985. This includes any person who was selected as eligible to participate in the hunt - whether they hunted or not.

As extra incentives for meeting the deadline, each hunter who files in time will be eligible for a draw on a shotgun supplied by the Ithaca Arms Company, and will also qualify for an attractive colour print of a Wild Turkey. The prints will be supplied by 'Ontario Out-of-Doors' magazine upon receipt of the mandatory reports by MNR.

The information collected on the mandatory report forms and at each of five field check stations during the hunt includes essential data

...2/

on age, weight, health and size of the deer herds in the district.

This material is then used as the basis for future deer management decisions --- which may include changes in season length, or hunter numbers. "Thus hunters are being handed an increasingly responsible role in the management and future of their sport --- its up to them", says Reid.

- 30 -

For further information:

Dave Reid, District Biologist

or

Peter Gill, Information Services Coordinator
Ministry of Natural Resources
645 Norfolk St. N.
Simcoe, Ontario
N3Y 3R2
Tel: (519) 426-7650

Appendix X - Letter sent on 3rd, December, 1984 to hunters who failed to submit a mandatory report.

Ontario Ministry of Natural Resources

DEAR HUNTER:

YOU RECEIVED A CONTROLLED DEER HUNT MANDATORY REPORT WITH YOUR VALIDATION TAG THIS YEAR. ON THIS REPORT FORM AND IN OTHER WRITTEN COMMUNICATIONS, YOU WERE TOLD THAT COMPLETION OF THE REPORT IS MANDATORY AND THAT IT MUST BE RETURNED TO THE MINISTRY BY NOVEMBER 22, 1984.

AS OF NOVEMBER 23RD, WE HAD NOT RECEIVED YOUR COMPLETED CONTROLLED DEER HUNT MANDATORY REPORT. YOU ARE HEREBY NOTIFIED THAT, ACCORDING TO ONTARIO REGULATIONS MADE UNDER THE AUTHORITY OF THE GAME AND FISH ACT, YOU ARE INELIGIBLE TO RECEIVE A CONTROLLED DEER HUNT VALIDATION TAG IN 1985.

IF YOU HAVE REASON TO BELIEVE THAT YOUR REPORT WAS SUBMITTED, YOU ARE ADVISED TO CONTACT THE DISTRICT FROM WHICH YOUR TAG WAS ISSUED, BY REGISTERED MAIL, BY JANUARY 11, 1985.

YOURS TRULY,

Appendix XI - Letter to hunters returning mandatory reports late for acceptable reason.

Ministry of Natural Resources

Ontario

OUR FILE 10-22-1

FEBRUARY 19, 1985

DEAR HUNTER:

THIS IS TO INFORM YOU THAT WE RECEIVED YOUR RESPONSE TO OUR DECEMBER 3, 1984 LETTER AND HAVE ACCEPTED YOUR EXCUSE FOR RETURNING YOUR MANDATORY REPORT LATE.

IN CONTRAST TO OUR DECEMBER 3, 1984 LETTER, YOU WILL BE ELIGIBLE TO RECEIVE A CONTROLLED DEER HUNT VALIDATION TAG IN 1985.

THANK YOU FOR YOUR CO-OPERATION IN THIS MATTER.

YOURS TRULY,

M. F. McKENZIE
DISTRICT MANAGER
SIMCOE DISTRICT
645 NORFOLK ST.N.
SIMCOE, ONTARIO
N3Y 3R2
(519) 426-7650

D. J. REID DR
DISTRICT BIOLOGIST

DJR:ss

(9) * THIS letter WAS mailed ON 20/02/85

ADDITIONAL INFORMATION FOR COMPLETION OF THE BIG GAME HARVEST CARDS

See the pages titled "Coding Guide for Big Game Harvest Cards" and "Conventions for Special Cases in Big Game Harvest Cards and Export Permits" for specific information on completing the B.G.H.C.

LOCATION OF KILL

Be sure to use the Wildlife Management Unit maps as described in the Coding Guide if completing blocks 17 to 19 and 22 to 27. Note that W.M.U. maps for many parts of southern Ontario will not be printed until 1982. For these areas not having W.M.U. or mercator grid numbers, it is essential to enter the township code.

SEX

For fawns, if genitals are not present, carefully check the animal's head for presence or absence of antler pedicles (= buttons or buds). The pedicles may be covered by hide, but in most cases this hair will appear different from that surrounding it. In any event, the pedicle, if not visible, can be felt posterior to the upper rim of the eye.

WEIGHT

Enter in blocks 42 to 44 only the weight in kilograms of the carcass with all internal organs removed.

If your scale weighs in pounds, enter this weight in the Additional Comments section and multiply by 0.454 to convert to kilograms (2.2 kg = 1 pound).

If you must weigh the carcass with the organs in, enter the weight in the Additional Comments section and note which organs were included.

ANTLERS

The amount of antler produced by a buck is related to his physiological condition. Young bucks show the greatest variation due to their growth and maintenance demands being combined with social class pressures.

Beam Diameters are to be recorded as the average of two measurements on each antler, 25 mm above the burr (= coronette). The first measure is taken at the widest point and the second at right angles to the first (see diagram). Enter the average for the two antlers.

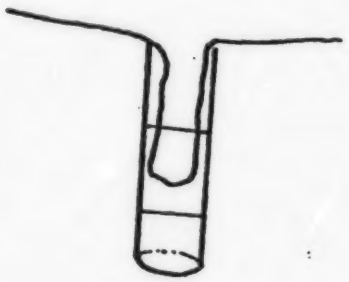
Number of points - Count all points over one inch (2.5 cm) in length. See the diagram.

Length - The total length of antler produced and its diameter represent the volume of bone which the deer was capable of growing. All measures are to be taken on the outside curve of the antler. First, measure the entire length of the main beam from burr to tip. Then add the lengths of each tine which was counted. Record on "Supplementary Data" form.

For consistency, the starting point for measuring tine lengths is taken to be midway into the beam. See diagram.

LACTATION STATUS

Teat Measure - This measurement is taken as an indication of reproduction. A doe which has nursed a fawn will have longer nipples than a non-productive doe.

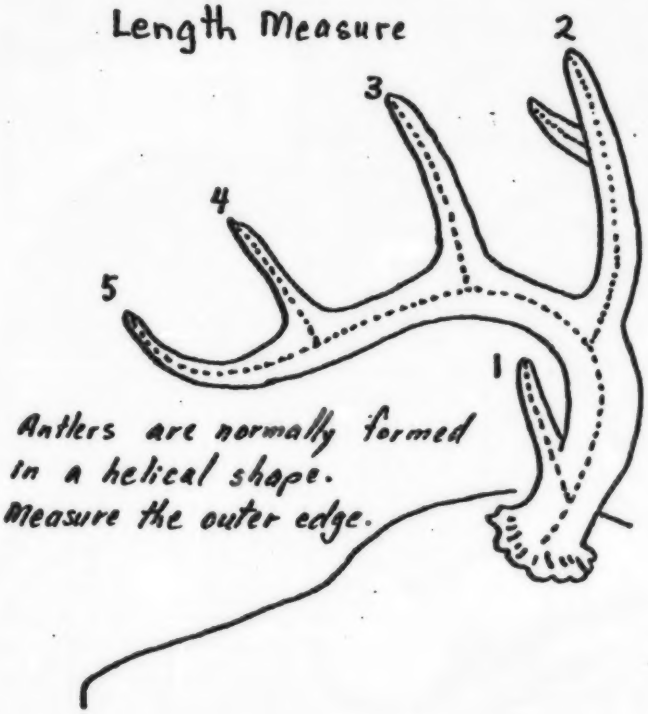


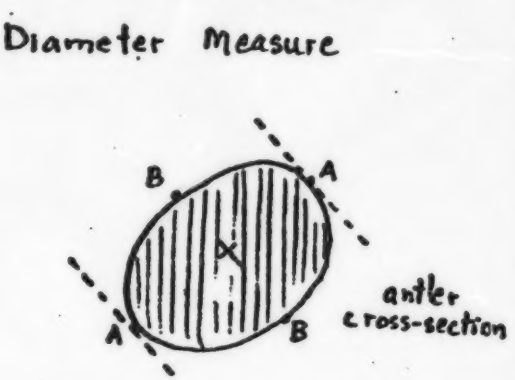
Place the rim of the measuring tube gently against the udder, allowing the nipple to hang freely in the tube.

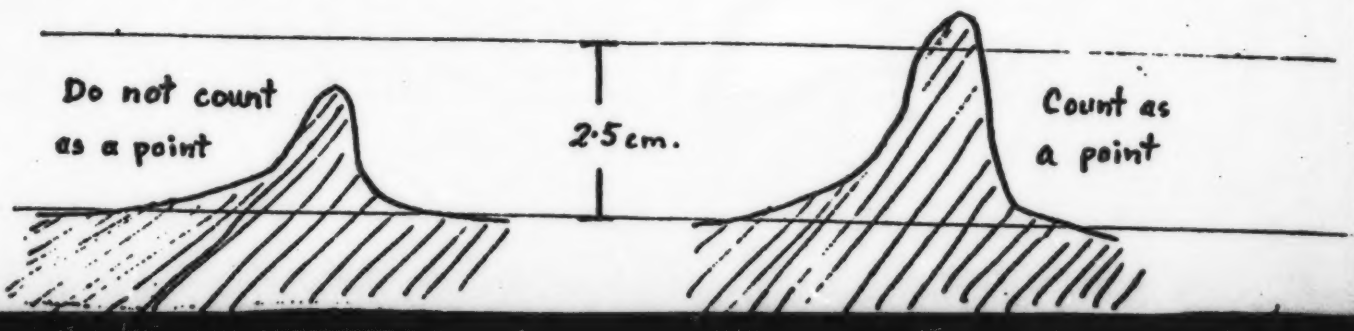
The tissue loses its elasticity following death, therefore, be careful not to stretch the nipple prior to measurement.

*Take this measurement BEFORE checking for milk.

Milk present - Squeeze the udder and inspect for the presence of milk. If the udder has been removed, question the hunter for reliable information.







Ontario Ministry of Natural Resources — Wildlife Branch

Big Game Harvest

For Resident Hunters only

Day's Kill — Year / Month / Day

Kill Location — Mgmt. Unit / Dist.

One animal per card.

Serial No. 203732

Moose

Date Shot			Location of Kill				Sex		Age		Crest Issued		Issuing Office		Specimen
Year	Month	Day	Mgmt. Unit	District	Mercator Grid	Township	M	F	Section	Wear class	Yes	No	Dist.	Station	
11			17	20	22	25	34		35	½ 38 ½	40		48	51	53

Deer

Date Shot			Location of Kill				Sex		Age		Crest Issued		Weight (kg)	Antlers		Issuing Office		Specimen
Year	Month	Day	Mgmt. Unit	District	Mercator Grid	Township	M	F	Section	Wear class	Yes	No		Beam Diam. (mm)	No. Points (total)	Dist.	Station	
11			17	20	22	25	34		35	½ 38 ½	40		42	45	47	49	51	53

Bear

Date Shot			Location of Kill				Sex		Age		Cub	Adult	Weight (kg)	Girth (cm)	Issuing Office		Specimen
Year	Month	Day	Mgmt. Unit	District	Mercator Grid	Township	M	F	Section						Dist.	Station	
11			17	20	22	25	34		35	½ 38			42	45	49	51	53

Identification of Hunter

Name	Address	Postal Code	Licence Serial No.

Additional Comments

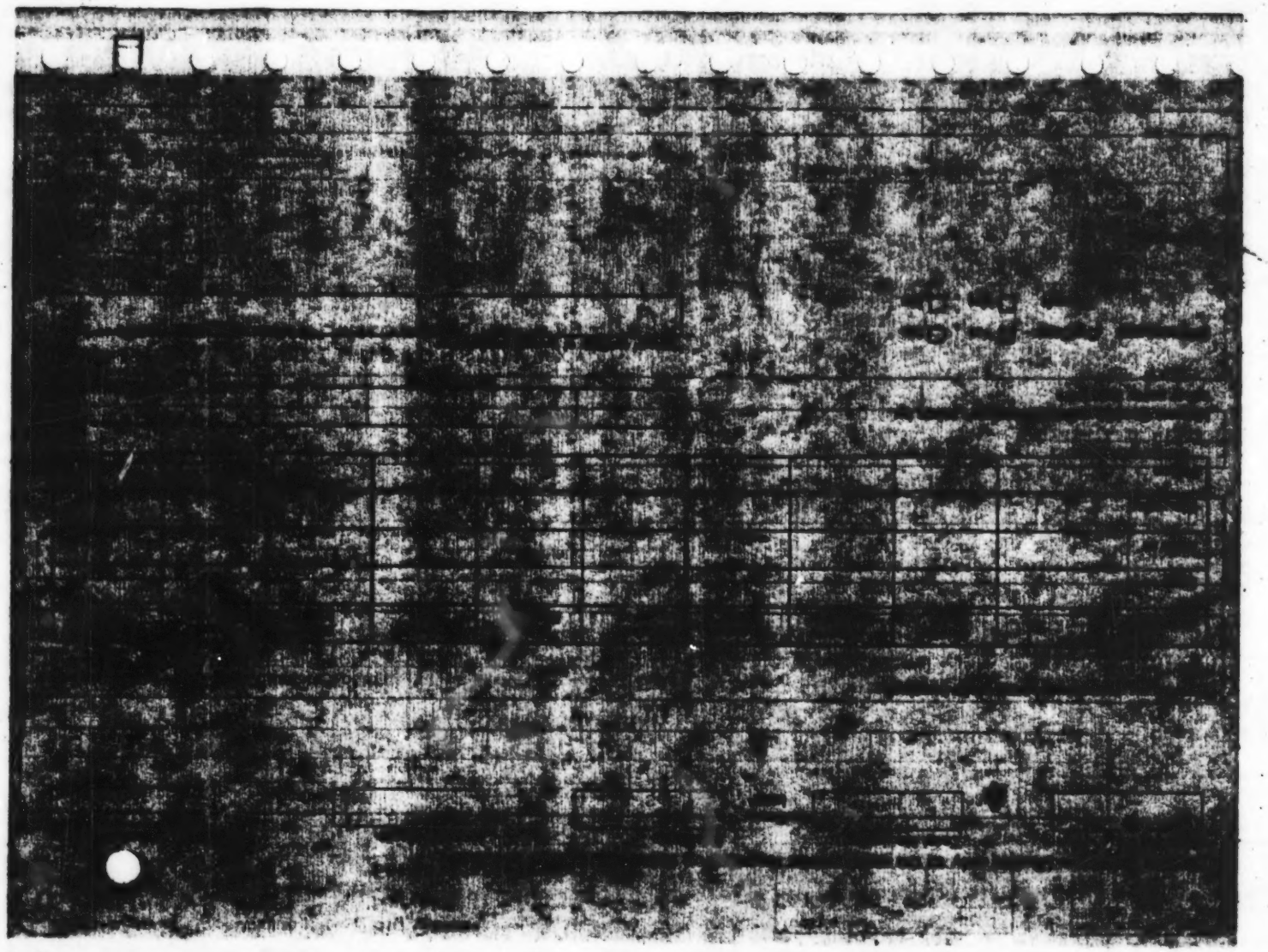
Merc. 1st: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Grid. 2nd: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

	Yes	No
Hide Submitted		
Hat Issued		
Jaw Submitted		
Crest Issued		

All forms to be sent to the Region for distribution.
Distribution — Before Aging, Pt. 1 (white) to Wildlife Surveys & Records, After Aging, Pt. 2 (green) to Dist. of Kill, Pt. 3 (buff) to M.U. of kill

Signature of Person Submitting Harvest Card

1669 (0860)



Appendix XIII. Area of the total land, forested land, unproductive land, developed agricultural land, and total corn grown in 1981, for wildlife management units 90A and 90B.

WMU	Geographical Township	OMNR Distirct	AREA $(km)^2$ (1.) Total Land (2.)	Forested Land (3.)	Unproductive Land (4.)	Developed Agricultural Land	Total Corn Grown 1981 (5.)
90A	Dunn	Niagara	67.40	13.89	7.48	46.03	13.51
	S. Cayuga	Niagara	60.75	12.69	5.00	43.06	11.37
	N. Cayuga (6.)	Niagara	56.72	11.55	5.93	39.24	10.37
	Rainham	Simcoe	108.36	14.48	5.46	88.42	24.60
	Oneida	Niagara	174.45	21.08	17.92	100.28	26.49
	Walpole	Simcoe	286.55	25.45	38.63	222.47	61.90
	Woodhouse	Simcoe	152.44	23.61	28.52	100.31	27.91
	Townsend	Simcoe	269.21	36.64	20.26	212.31	59.07
	Tuscarora (7.)	Cambridge	169.11	-----	-----	------	-----
	Oakland (8.)	Simcoe	34.72	7.73	2.66	24.33	6.49
	Brantford (9.)	Cambridge	143.64	19.75	33.93	89.07	35.08
	TOTAL (10.)		1354.24	186.87	165.79	965.52	276.79
90B	Oakland (11.)	Simcoe	10.37	2.31	0.80	7.26	1.94
	Burford	Simcoe	274.57	51.89	17.62	205.06	75.78
	Windham	Simcoe	277.51	57.82	14.40	205.29	42.71
	Charlotteville	Simcoe	251.58	104.24	15.17	132.17	27.49
	S. Walsingham	Simcoe	222.37	119.85	11.85	87.68	17.29
	N. Walsingham	Simcoe	164.44	39.45	8.77	119.21	23.51
	Houghton	Simcoe	136.65	37.78	6.82	92.05	18.15
	Middleton	Simcoe	187.95	43.36	17.28	127.31	25.10
	S. Norwich	Simcoe	149.72	24.18	13.34	113.51	56.11
	N. Norwich	Simcoe	147.58	14.08	13.15	119.09	58.87
	East Oxford	Simcoe	135.83	14.39	10.76	110.68	54.71
	West Oxford (12.)	Aylmer	98.34	10.74	14.95	72.55	43.16
	Dereham (13.)	Aylmer	83.97	9.11	8.33	66.53	36.13
	Bayham (14.)	Aylmer	94.14	28.27	5.57	60.30	21.61
	Brantford (15.)	Cambridge	53.48	7.36	12.64	33.17	13.06
	TOTAL		2288.50	564.83	171.45	1551.86	515.62
	GRAND TOTAL		3642.74	751.70	337.24	2517.38	792.41

Appendix XIII Continued:

1. Source: Forest resources inventory based on 1978 aerial photographs (scale 1:10000).
2. Total area minus area of water.
3. Productive forest plus protection forest and wooded non-productive land.
4. Grass land plus unclassified land (hydro corridors, railway right-of-ways, road shoulders, and urban lands.)
5. Source: 1981 Census of Agriculture - combined area of grain and silage corn provided by Agricultural representatives for Norfolk, Oxford, Brant and Elgin. Areas originally provided for municipal townships broken down to geographical township based on proportion of D.A.L.
6. Proportion of township within WMU 90A estimated as 37/94 by dot grid.
7. Tuscarora township consists of Six Nations Indian Reserve No. 40 and New Credit Indian Reserve No. 40A and, although included in the legal description of WMU 90A, is not open to hunting by non-native hunters.
8. Proportion of township in WMU 90A estimated as 67/87 by dot grid.
9. Proportion of township in WMU 90A estimated as 69/152 by dot grid.
10. Total area of WMU 90A excluding Tuscarora township.
11. Proportion of township in WMU 90B estimated as 20/87 by dot grid.
12. Proportion of township in WMU 90B estimated as 56/61 by dot grid.
13. Proportion of township in WMU 90B estimated as 52/174 by dot grid.
14. Proportion of township in WMU 90B estimated as 63/164 by dot grid.
15. Proportion of township in WMU 90B estimated as 26/152 by dot grid.

NOTE: Above areas differ somewhat from a similar table presented in Reid (1984) which erroneously included all of Oakland and Brantford townships in WMU 90A. In fact parts of these townships lie within WMU 90B. This table reflects the areas of the two WMU more accurately.

Appendix XIV Air temperature and precipitation recorded at the Simcoe weather station for each day of the controlled deer hunt in 1981, 1982 1983, and 1984.

DATE	FACTOR	DAY OF HUNT 1	2	3	4	1. Summary
Nov.2-5/81	Max. Temp.(°C)	17.0	12.0	17.0	13.0	17.0
	Min. Temp.(°C)	3.3	- 1.7	0.3	0.0	-1.7
	Mean Temp.(°C)	10.2	5.2	8.7	6.5	7.6
	Rainfall (mm)	0	0	0	2.0	2.0
Nov.1-4/82	Max. Temp.(°C)	17.0	21.0	16.3	9.2	21.0
	Min. Temp.(°C)	11.0	13.0	9.0	1.0	1.0
	Mean Temp.(°C)	14.0	17.0	12.7	5.1	12.2
	Rainfall (mm)	29.0	24.2*	13.8	11.2	78.2
Nov. 7-10/83	Max. Temp.(°C)	12.0	15.0	16.0	13.0	16.0
	Min. Temp.(°C)	2.5	4.0	6.0	5.8	2.5
	Mean Temp.(°C)	7.3	9.5	11.0	9.4	9.3
	Rainfall (mm)	0	0	0	3.4	3.4
Nov. 5-8/84	Max. Temp(°C)	12.9	4.6	8.0	11.0	12.9
	Min. Temp(°C)	4.0	-2.0	-4.7	0.8	-4.7
	Mean Temp(°C)	8.5	1.3	1.7	5.9	4.3
	Rainfall	1.6	0	0	6	1.6

1. Summary column includes the greatest maximum temperature, the smallest minimum temperature, the average mean temperature and the total accumulated rainfall, recorded during the hunt.

* Thunderstorm occurrence.

APPENDIX XV Mean air temperatures, total heating degree days and total snow accumulation for the winter months (December, January, February and March) in a normal year and for the winters of 1978/79, 79/80, 80/81, 81/82, 82/83, 83/84, and 84/85 as recorded at the Simcoe weather station.

Winter	Dec.			Jan.			Feb.			Mar.			Dec. - Mar.		
	T.	H.	S.	T.	H.	S.	T.	H.	S.	T.	H.	S.	T.	H.	S.
Normal	-2.8	623.9	36.4	-5.6	730.7	40.3	-5.3	648.2	23.8	-0.3	567.5	24.8	-3.5	2570.3	125.3
1978/79	-1.8	614.7	16.1	-7.6	793.5	57.7	-10.2	788.4	17.3	2.2	489.7	8.7	-4.2	2686.3	98.8
1979/80	-0.5	573.2	30.5	-5.1	716.5	18.2	-7.4	736.9	23.2	-1.8	611.4	16.1	-3.6	2638.0	88.0
1980/81	-5.7	735.2	34.8	-8.8	830.5	36.2	-2.3	568.1	36.2	0.0	547.9	16.8	-4.2	2681.7	124.0
1981/82	M (-2.5)[1]	M (634.9)[2]	M (18.6)[1]	M (-9.8)[3]	M (862)[4]	M (57.4)[5]	-7.1	700.5	35.6	-1.1	593.0	20.0	-4.3	2790.4	131.6
1982/83	1.8	504.2	32.0	-3.4	662.3	6.0	-2.4	571.8	11.2	1.5	512.6	17.1	-0.6	2250.9	66.3
1983/84	-5.8	735.7	53.4	-9.0	837.3	40.2	-1.3	564.5	69.4	-4.6	699.6	37.6	-5.2	2837.1	200.6
1984/85	0.1	554.9	22.6	-7.5	792.2	42.0	-5.5	656.7	68.2	1.2	521.8	28.4	-2.9	2525.6	161.2

T. = mean air temperature (^{o}C)

H. = total degree days (base $18^{o}C$)

S. = total snow precipitation (cm)

M. = Station closed - no reports available Dec.24/81 - Jan. 4/82.

1. calculated for 23 day period Dec. 1-24/81, only.
2. estimated for entire month based on Dec. 1-24/81 period.
3. calculated for 24 day period Jan. 4-31/82.
4. estimated for entire month based on Jan. 4-31/82 period.
5. calculated for 20 day period Jan. 5, 6, 14-31/82.

Appendix XVI Accumulated corn heat units between May 11 and Sept. 20 and accumulated rainfall and percentage days with rain between Sept. 20 and the 1st Monday in November for 1980, 1981, 1982 1983, and 1984.

Year	Corn Heat Units* May 11 - Sept. 20	Sept. 20 - 1st Monday in Nov. Total Rainfall	% Rainy Days
1980	2910	NA	NA
1981	2831	91.2 mm	28.9
1982	2775	174.0 mm	43.2
1983	2841	120.8 mm	36.0
1984	2859	90.0 mm	34.0

* Corn heat units are based on daytime temperatures over $10^{o}C$ and night temperatures over $4.4^{o}C$. Daytime temperatures are modified as $30^{o}C$ is considered optimum for corn development. The sum of these "heat units" between normal planting time (May 11 in Simcoe area) and the date when killing frost can be expected one year in ten (September 20 in Simcoe area) is the basis of the heat unit rating system in Ontario. This area has a normal range of 2900 - 3100 corn heat units depending upon location. Source: K. Linington, OMAF. Agricultural Representative for Norfolk, August 23, 1984.